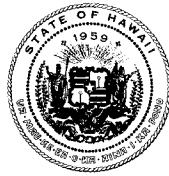


REPORT TO THE TWENTY-FIRST LEGISLATURE
2002 REGULAR SESSION

REQUESTING AN INVESTIGATION OF THE IMPACTS OF
INCREASED PUBLIC ACCESS ON
KA'AWALOA AND KEALAKEKUA BAY,
ISLAND OF HAWAI'I



Prepared by:

Department of Land and Natural Resources

in response to

Senate Concurrent Resolution No. 139, Senate Draft 1
Twenty-First Legislature, 2001 Regular Session

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TABLE OF CONTENTS

INTRODUCTION	1
Senate Concurrent Resolution No. 139, Senate Draft 1	1
Jurisdiction of Areas and Resources	5
RESOURCES OF KEALAKEKUA	7
Historical/Cultural Resources	7
Trails	10
Natural Terrestrial Resources	13
Marine Resources	14
Scenic Resources	15
EXISTING CONDITIONS AND STUDIES	16
Kealakekua Bay State Historical Park	16
Visitation at the Nāpo‘opo‘o Section	18
Visitation to the Ka‘awaloa Section by Land	22
Visitation to the Ka‘awaloa Section by Water	22
Facilities and Staffing	25
Park Planning	27
Kealakekua Bay	28
Kealakekua Bay Marine Life Conservation District	28
Ka‘awaloa Cove	28
<i>Nai‘a</i> (Spinner Dolphins)	29
Visitation of Ka‘awaloa Cove and Kealakekua Bay	30
Commercial Boating Operations	33
IMPACTS OF VISITATION ON THE RESOURCES	36
Marine Resources of Ka‘awaloa Cove	37
Cultural Resources of Ka‘awaloa	37
Scenic Resources and Preservation of the Cultural Landscape	38
RECOMMENDATIONS AND MANAGEMENT STRATEGIES	40
Marine Resources	40
<i>Nai‘a</i> (Spinner Dolphins)	40
Reef of Ka‘awaloa Cove	41
Recreational Use of the Bay	41
DOBOR Rules and Regulations	41
Nāpo‘opo‘o Wharf	42
Ka‘awaloa Moorings	42
Commercial Ramp Use Permits	43
Cultural Resources of Ka‘awaloa Flat	43
Preserving the Cultural Landscape	45
Enforcement	45
Summary	45
REFERENCES CITED	47
APPENDIX A: Senate Concurrent Resolution No. 139, Senate Draft 1	
APPENDIX B: User Surveys and Visitation Counts	
APPENDIX C: Consultation and Public Meetings on Kealakekua	

LIST OF FIGURES

FIG. 1	Location of Kealahou on the southwestern coastline of the island of Hawai'i	2
FIG. 2	Detail of the Kona coastline showing the <i>ahupua'a</i> and location of Kealahou Bay and Kealahou Bay State Historical Park	3
FIG. 3	DLNR jurisdiction within Kealahou Bay and the surrounding land areas	6
FIG. 4	Boundaries of Kealahou Bay Historical District	8
FIG. 5	Archaeological sites and corresponding Land Commission Awards	11
FIG. 6	Dominant marine bottom types in Kealahou Bay	15
FIG. 7	Park sections and elements of the Conceptual Plan for Kealahou Bay State Historical Park	17
FIG. 8	Survey stations and visitor use areas at Ka'awaloa Flat and Ka'awaloa Cove	23
FIG. 9	Biomass in Kealahou Bay	29

LIST OF TABLES

TABLE 1	Significant Cultural Resources within Kealahou Bay State Historical Park	9
TABLE 2	Visitation Pattern at Nāpo'opo'o	19
TABLE 3	Visitation Pattern at Ka'awaloa Flat	19
TABLE 4	Kayak Landings at Ka'awaloa Flat (Saturday, October 13, 2001)	25
TABLE 5	Visitation to Ka'awaloa by Vessel (Thursday, July 26, 2001)	31
TABLE 6	Visitation to Ka'awaloa by Vessel (Saturday, October 13, 2001)	31
TABLE 7	Permitted Commercial Vessels and Visitation in Kealahou Bay	32
TABLE 8	Observed Commercial Visitation at Ka'awaloa Cove	32
TABLE 9	Summary of Visitation at Ka'awaloa Cove on July 26, 2001 by Person	34
TABLE 10	Summary of Visitation to Ka'awaloa Cove on July 26, 2001 by Vessel	34
TABLE 11	Estimated Annual Visitation to Ka'awaloa Cove	36

LIST OF PHOTOGRAPHS

PHOTO 1	Aerial view of Kealakekua Bay	4
PHOTO II	Wharf at the end of Ka'awaloa Road, circa 1890s	12
PHOTO III	Puhina O Lono Heiau and the Ka'awaloa Road, circa 1850s	12
PHOTO IV	Nāpo'opo'o wharf in March, 2000	21
PHOTO V	View across the bay to Ka'awaloa from Nāpo'opo'o wharf	21
PHOTO VI	Hiker on the lower portion of Ka'awaloa Road	24
PHOTO VII	Activity on the wharf at the Cook Monument on July 26, 2001	24
PHOTO VIII	Kayaks hauled up on <i>pahoehoe</i> at end of the Ka'awaloa Road	26
PHOTO IX	Commercial vessels in Ka'awaloa Cove on July 26, 2001	26
PHOTO X	Hiker on the section of Ka'awaloa Road below Puhina O Lono Heiau	39
PHOTO XI	View of Ka'awaloa Flat and adjacent <i>ahupua'a</i> of Keōpuka from the Ka'awaloa Road	39

INTRODUCTION

Kealahou is located in the district of South Kona, along the southwestern coastline of Hawai'i Island and approximately 12 miles south of Kailua-Kona (Fig. 1). Kealahou refers to an *ahupua'a* (traditional land division), a town along Māmālahou Highway, and a state historical park. Kealahou Bay State Historical Park is comprised of the *makai* portion of the Kealahou and Ka'awaloa *ahupua'a* which surround the bay. Located on the slopes of Mauna Loa, Kealahou Bay is sheltered by the 600-foot high, steep *pali* known as Pali Kapu o Keōua (Fig. 2 and Photo 1). Surrounding the one-mile wide bay are the rich agricultural lands that comprised the historic Kona Fieldsystem and the coffee fields of Kona today. Although there are no streams in the area, numerous springs provide a source of freshwater. Settlements lined the bay in the pre-contact period, as do the small residential communities of Nāpo'opo'o and Ke'ei today.

Kealahou is considered one of Hawai'i's most significant historical and cultural places. Kealahou was selected by the *ali'i* as one of the seven royal centers of Kona in the 1700s because of its sheltered bay and abundance of natural resources. Kealahou was the site of the first extensive interaction between the Hawaiians and Europeans when Captain Cook anchored in Kealahou Bay for a month in January, 1779. Soon, Kealahou became known as a provisioning port for ships involved in exploration, whaling, and trans-Pacific trade. About 40 years after Cook's visit, the missionaries arrived and established one of the earliest mission stations in Hawai'i at Ka'awaloa. By the late 1800s, traditional fishing and farming were giving way to ranching and coffee. Today, the remaining archaeological sites and historic buildings reflect the long and diverse cultural history of Kealahou.

Senate Concurrent Resolution No. 139, Senate Draft 1

Senate Concurrent Resolution No. 139, Senate Draft 1 was adopted by the Legislature during the Regular Session of 2001. This Concurrent Resolution requests the Department of Land and Natural Resources (DLNR) to conduct an investigation of the impacts of increased public access at Ka'awaloa and Kealahou Bay on the Island of Hawai'i. The Concurrent Resolution recognizes the historical and cultural significance of Kealahou, the diverse marine resources of Ka'awaloa Cove, and the recreational opportunities available to hikers, horseback riders, fishermen, boaters, and tour operators. An assessment of users and impacts of these users on the resources involves an evaluation of the carrying capacity and levels of acceptable change. As outlined in the Concurrent Resolution, the assessment involves four objectives:

1. Establish a baseline study of existing conditions and the number of visitors currently using the Ka'awaloa area, including the numbers of snorkelers and divers at Ka'awaloa Cove;
2. Assess the potential impacts of increased use and visitation, and determine an acceptable level of use and visitation that will protect the land and marine resources;
3. Provide recommendations for the management of the Ka'awaloa area through

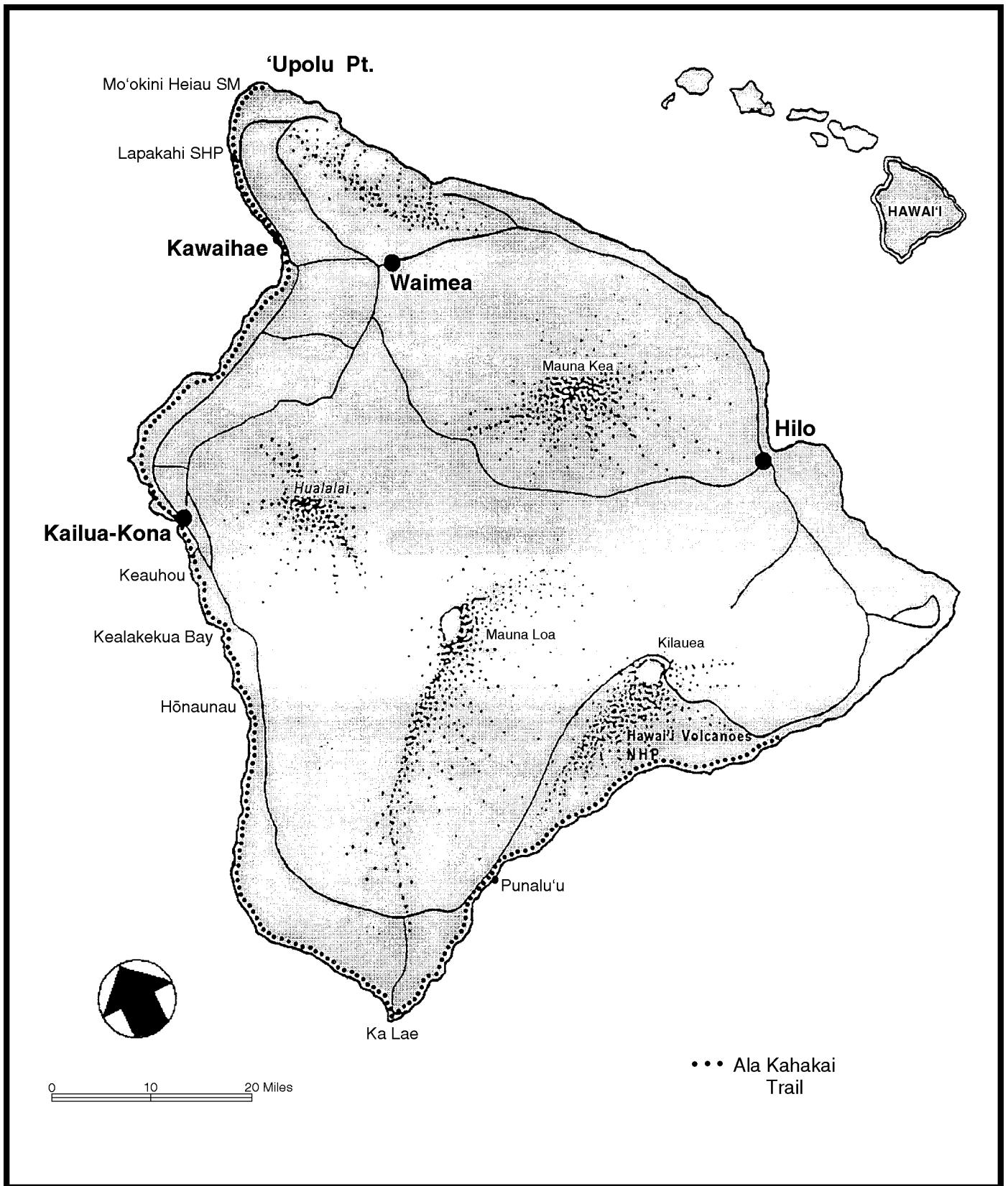


FIG. 1 - Location of Kealahou on the southwestern coastline of the island of Hawai'i.

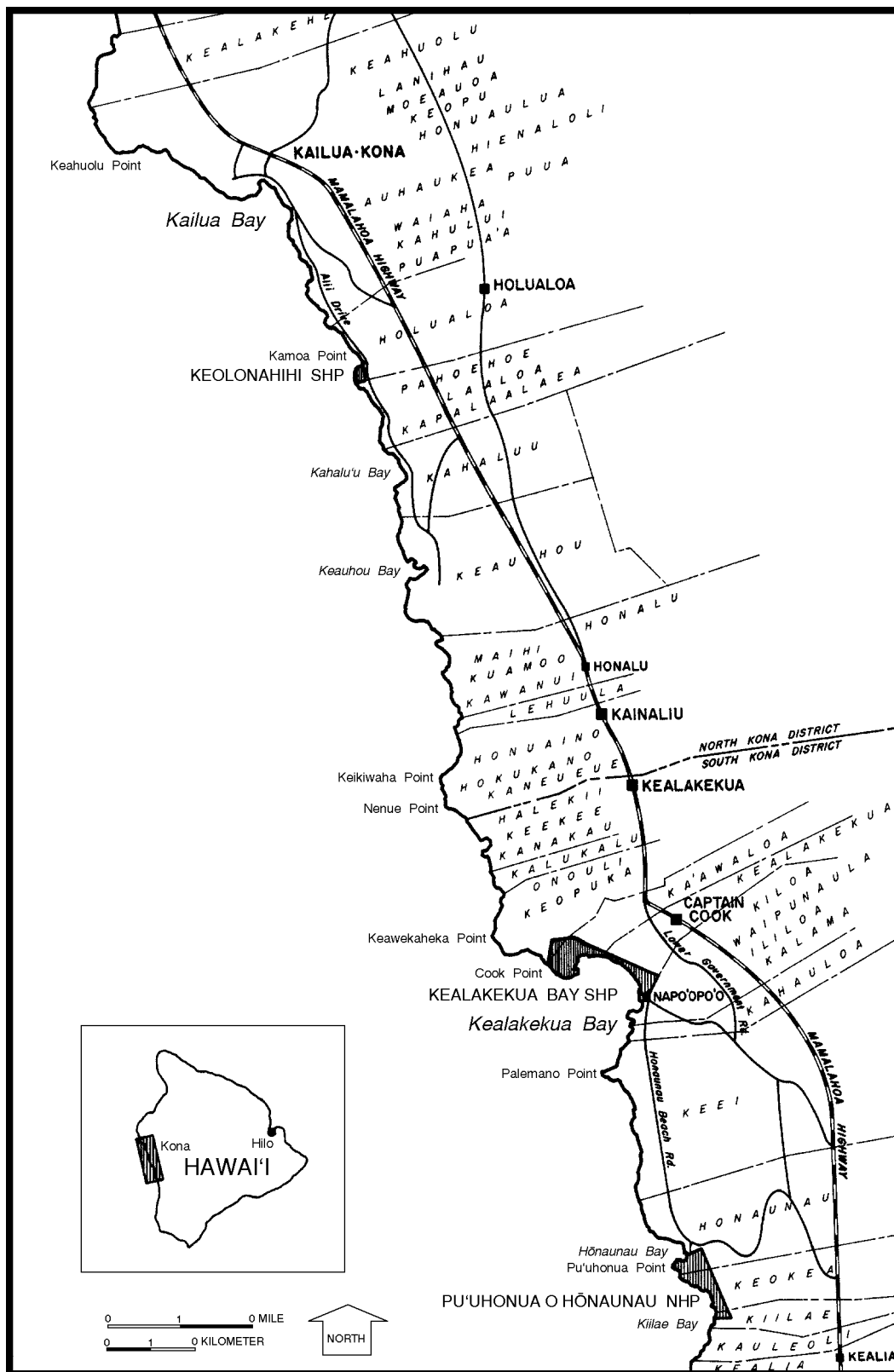


FIG. 2 - Detail of the Kona coastline showing the *ahupua'a* and location of Kealakekua Bay and Kealakekua Bay State Historical Park.



PHOTO 1

Aerial view of Kealakekua Bay looking north.

(Photo from Macdonald et. al., 1983: 371)

(The south end of the bay is marked by Palemano Point in the foreground with the communities of Ke'ei and Nāpo'opo'o along the south side of the bay. The north end of the bay is marked by Cook Point and Ka'awaloa Flat. The peninsula adjacent to Ka'awaloa Flat is Keawekaheka Point and the *ahupua'a* of Keōpuka. The steep cliff of Pali Kapu O Keōua defines the center of the bay. The portion of the cliff inland of the bay and backing Nāpo'opo'o is called Pali O Manuahi.)

controlled access, the use of preferred trails that protect the sites, education and interpretation, guided tours, additional facilities such as restrooms, personnel needs, and other means as appropriate; and

4. Gather input from individuals, including those who use the area for recreation, who are interested in the management of the resources in question, who own property in the area, or who own businesses that affect the resources in question.

In response to the resolution, an inventory of the natural and cultural resources of the bay and surrounding shoreline was compiled, the existing levels of visitation were determined by conducting two day-long surveys, the current efforts to assess and mitigate the impacts were identified, and recommendations have been made to further mitigate these impacts. The resources needed to accomplish these recommendations, however, may extend beyond the scope of this resolution.

Jurisdiction of Areas and Resources

Jurisdiction for the management of the resources and controls over visitation of Kaʻawaloa and Kealakekua Bay lies with six different divisions within the Department of Land and Natural Resources (Fig. 3). The potential for overlapping jurisdiction, different sets of rules and regulations, and the absence of a set aside for Kealakekua Bay State Historical Park, create confusion for the public when issues and concerns arise.

- Division of Aquatic Resources (DAR) - Jurisdiction over the Marine Life Conservation District (MLCD) that encompasses most of Kealakekua Bay.
- Division of Boating and Ocean Recreation (DOBOR) - Jurisdiction over the recreational activities in the bay and the wharf property at Nāpoʻopoʻo through Executive Order (E.O.) 3706 in 1997.
- Division of Conservation and Resources Enforcement (DOCARE) - Enforcement of laws, rules and regulations of the department and divisions.
- Division of State Parks - Jurisdiction over Kealakekua Bay State Historical Park which is currently limited to the former County park property at Nāpoʻopoʻo that was transferred to State Parks through E.O. 3744 in 1992.
- Land Division (LD) - Jurisdiction over the unencumbered State lands around Kealakekua Bay. This includes the parcels acquired for state park purposes which have not been placed under the jurisdiction of State Parks for management, maintenance or park development through an executive order.
- Division of Forestry and Wildlife (DOFAW) - The Nā Ala Hele Trails Program has jurisdiction over the Ala Kahakai trail that runs across the top of the *pali* and within the designated park boundaries.
- Historic Preservation Division (SHPD) - Does not have management jurisdiction, but reviews and approves projects within the Kealakekua Bay Historical District.

RESOURCES OF KEALAKEKUA

The resources of Kealakekua Bay and the surrounding lands fall into the broad categories of historical/cultural, geological, biological, marine, and scenic with some features falling into multiple categories. These resources tend to be fragile and subject to both natural and human impacts. The undeveloped nature of the lands around the bay and the thick vegetation cover have protected many of the historical and cultural resources since abandonment in the mid 20th Century.

Historical/Cultural Resources

Approximately 375 acres around Kealakekua Bay comprise the Kealakekua Bay Historical District that was listed on the National Register of Historic Places in 1973. Identified by State Site Number 50-10-47-7000, the district contains multiple sites in the area extending from the *ahupua'a* of Keōpuka in the north to Ke'ei in the south (Fig. 4).

As a historical park, the historical and cultural resources of Kealakekua Bay SHP are of primary significance. These resources illustrate the cultural history of Kealakekua from pre-contact Hawaiian cultural adaptation and development to Western Contact and acculturation: (Yent, 2000)

- Early pre-contact marked by initial settlement and development of the agricultural field system on the slopes above the bay.
- Late pre-contact when Ka'awaloa served as a royal center and Nāpo'opo'o was a priestly compound. This was a period of peak agricultural development with expansion of the Kona Field System above the *pali* and a growth in population.
- Early Western contact (1779-1840) marked by the arrival of Captain Cook and the missionaries.
- The Māhele (1840-1860) when individuals could claim land and many houselots were marked with walls and house platforms.
- The ranching period (1860-1900) included the development of Kealakekua as a shipping port for South Kona and development of towns in the *mauka* areas.

The park area is part of this large historic district that includes archaeological sites and complexes in the *makai* portions of the *ahupua'a* of Ka'awaloa and Kealakekua. The historical and cultural sites found within both the District and Kealakekua Bay SHP are summarized below and in Table 1.

- Ka'awaloa Complex. This complex of sites on the coastal flat in the Ka'awaloa *ahupua'a* represents a continuous cultural occupation from the pre-contact period to the abandonment of the area, circa 1940. Noted as one of the seven royal centers of Kona, the chiefly compound at Ka'awaloa Flat was occupied by Kalaniopu'u at the time of Cook's arrival. The complex includes 3 *heiau* and several possible house

TABLE 1
Significant Cultural Resources in Kealahou Bay State Historical Park

PARK LOCATION	SITE	DESCRIPTION	CONDITION & IMPACTS
Nāpo'opo'o	Hikiau Heiau	Large rock platform at Nāpo'opo'o beach; dedicated to both Kū and Lono and where annual Makahiki Festival began/ended.	Restoration in 1960, 1979, and 1992; subject to surf damage, visitor traffic, and vegetation growth.
	Helehelekalani Heiau	Low stacked rock platform <i>mauka</i> of Hikiau Heiau where <i>kāhuna</i> were trained.	Recently cleared of vegetation; possible modification during park plantings.
	Great Wall	Large stacked rock wall that defines the <i>mauka</i> boundary of the priestly compound.	Subject to damage from flooding and vegetation (sisal) growth.
	Pond and associated walls	Part of priestly compound with house sites, including the priest Hewahewa.	Modified by ranching activities; pond is rock-lined but largely silted in.
	Kona Field System	Small remnant in the park that includes field mounds and planting areas.	Some impact from ranching and cultivation of pineapple and coffee.
Pali Kapu O Keōua	Burial Caves	Lava tubes running under the <i>pali</i> with openings in the cliff face.	Possible damage from "looting" and rockslides.
	Old Gov't Road (Ala Kahakai)	Probably a footpath across <i>pali</i> that was converted to a curbed horse/cart road.	Impacted on <i>pali</i> by cattle and ranching walls.
	Ranching walls	Stacked rock walls to confine cattle on <i>pali</i> .	Intact.
	Puhina O Lono Heiau	Small, walled enclosure where body was prepared for burial.	Altered by placement of post and plaques in 1824 and 1928.
Ka'awaloa (<i>mauka</i> slope)	Ka'awaloa Road	Probably a footpath that was converted to a cart road in the early 1820s.	Damage from erosion, use by 4WD, and horse traffic in recent years.
	Heiau	End of Ka'awaloa Road; wall remnants.	Subject to surf damage.
	Heiau	Along SW shoreline; rock platform.	Subject to surf damage.
Ka'awaloa Flat (<i>makai</i>)	LCA Houselots	Walled kuleana; house platforms.	Subject to visitor traffic.
	Stone and mortar building	Historic building; unknown function.	Subject to visitor traffic.
	Hali'ilua	Spring-fed pond; chiefly bathing area.	Subject to surf damage; visitor traffic.
	Capt. Cook Monument	Obelisk erected in 1874.	Vandalism; visitor traffic.

platforms from this time period (Fig. 5). However, the majority of the sites, including walls and platforms, appear to date from the 1800s. Many of the walls correspond to the Land Commission Awards (*kuleana* claims) from the Māhele of 1848-1850. One structure with its stone and mortar walls is suggestive of the missionary period when a mission station was established at Kaʻawaloa. On the slopes above the flat is Puhina O Lono Heiau. During the 1800s, a wharf at Kaʻawaloa was used by ranchers to load cattle onto boats in the bay and the Barrett family operated a hotel near the wharf (Photo II).

- Pali Kapu o Keōua. The agricultural complex atop the *pali* is part of the Kona Fieldsystem consisting of walls and mounds for the planting of *ʻuala* (sweet potato), *kō* (sugar cane), *wauke*, and dryland *kalo* (taro). In the face of the *pali* are numerous burial caves. The entrances to many of these caves have been covered by rock fall and landslides.
- Hikiau Complex. Centered around Hikiau Heiau, this complex is associated with the priestly compound to the north and east of the *heiau*. The eastern boundary of this priestly area is marked by the “Great Wall” that runs north-south to the east of the *heiau*. The pond behind Nāpoʻopoʻo Beach and north of the *heiau* was surrounded by the priest’s houses. Also in the complex is a platform believed to be Helehelekalani Heiau where *kāhuna* were trained.
- Kealakekua Bay. Recent underwater testing with magnetometers by the University of Hawaiʻi, Marine Options Program, has indicated the research potential of the bay in terms of underwater archaeological resources.

Trails

There are 3 dirt roads and trails that provide land access to the Kaʻawaloa Section of the park (refer to Fig. 3). The Kaʻawaloa Road runs *mauka-makai* from the upper Nāpoʻopoʻo Road to Kaʻawaloa Flat. This is a County road that was a passable 4 wheel-drive (4WD) road until recent years. The lower portion of the road is probably the historic path to Puhina O Lono Heiau. The trail was modified to a horse and cart road by the missionaries in the 1820s. The road has fallen into disrepair by the lack of maintenance, erosion, and regular use by horses over the past 10 years.

The *ala loa* (long trail) was the coast trail that ran around the island of Hawaiʻi. In use as a footpath from the A.D. 1400s to 1700s, sections were modified for horse and cart in the 1800s and 1900s. A 175-mile portion of this *ala loa* has been designated the Ala Kahakai (Trail by the Sea) and recognized as part of the National Trail System. As a conceptual model, the Ala Kahakai runs from ʻUpolu Point in North Kohala to Volcanoes National Park in Puna on the southeastern shoreline (refer to Fig. 1).

A largely intact portion of the trail begins at Keauhou on the north, intersects the Kaʻawaloa Road, and runs south over the top of Pali Kapu O Keōua within Kealakekua Bay State Historical Park. This trail section is referred to as the Keauhou-Nāpoʻopoʻo Trail and Old Government Road (Fig. 3). The Nā Ala Hele Program proposes to restore this 10-foot wide trail for recreational hiking with motorized, equestrian, and bicycle

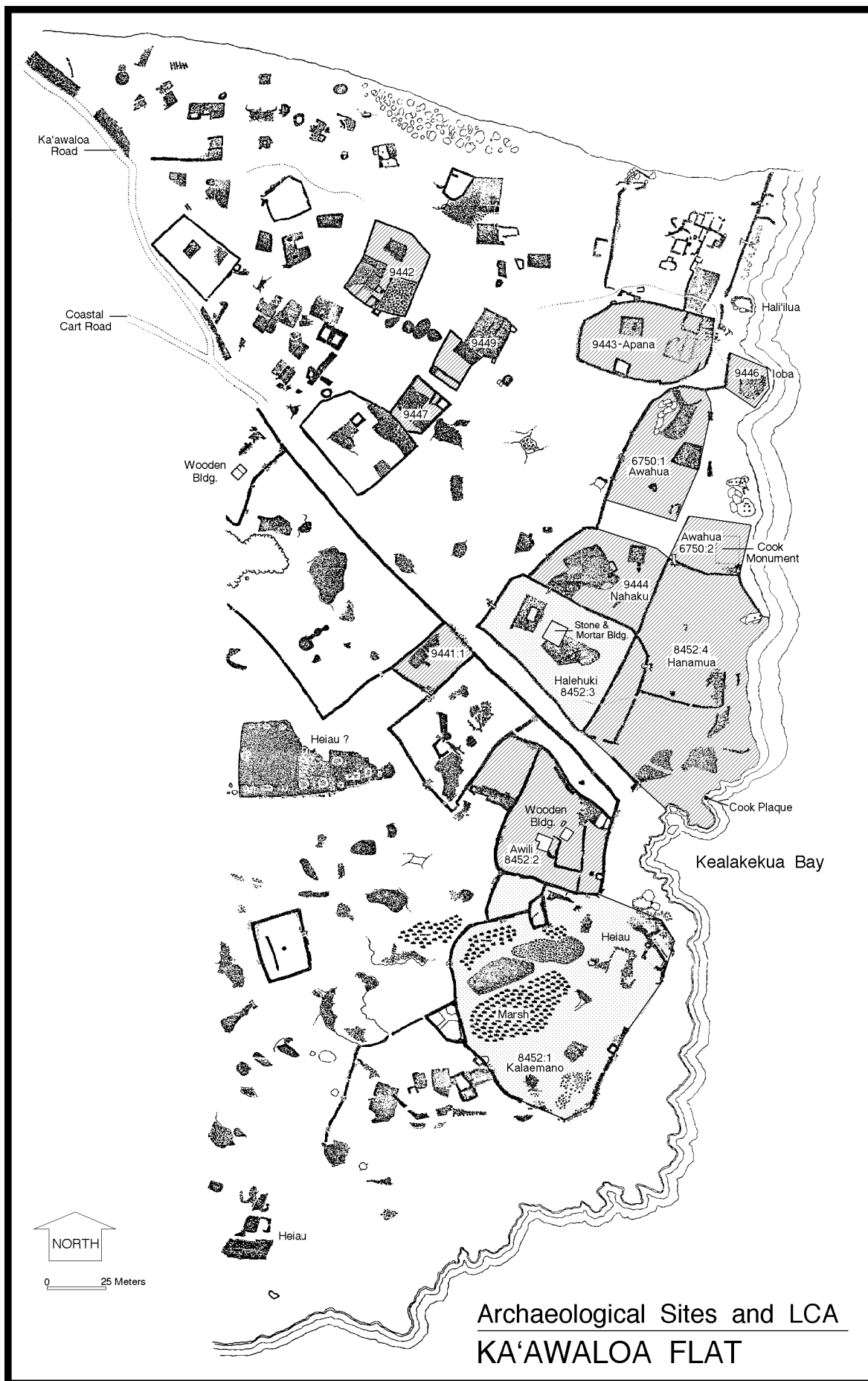


FIG. 5 - Archaeological sites and corresponding Land Commission Awards (LCA).

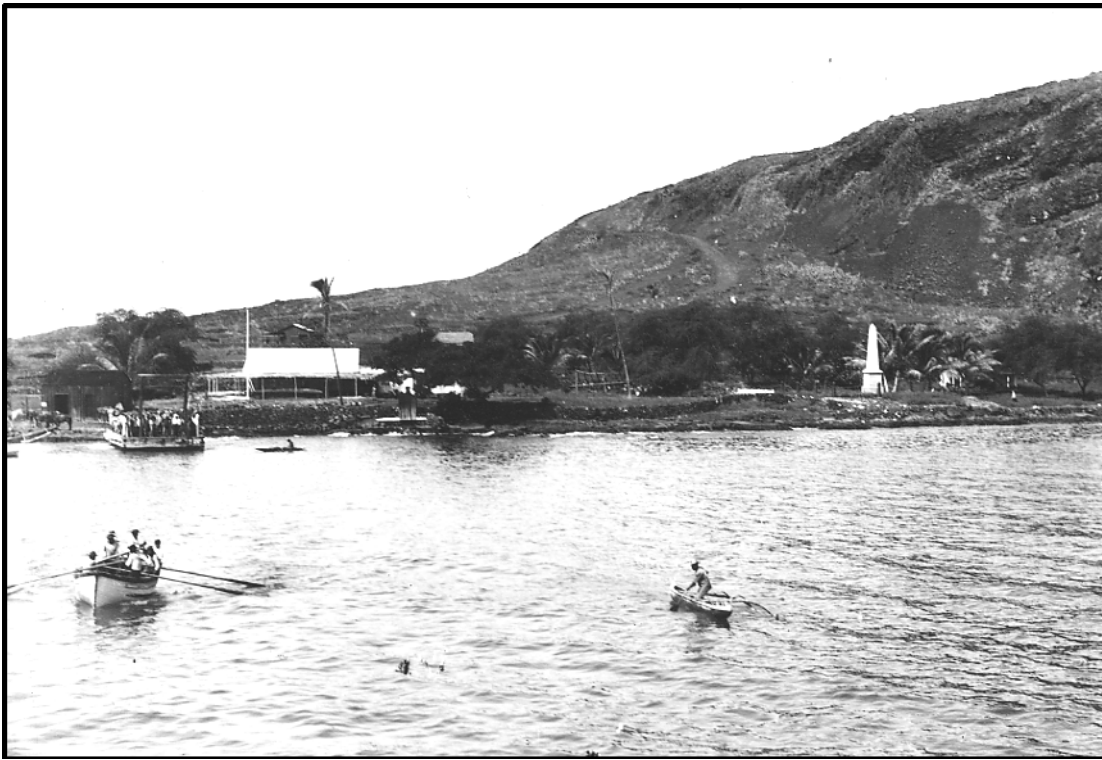


PHOTO II

Wharf at the end of Ka'awaloa Road, circa 1890s, used to load cattle onto boats in the bay. Captain Cook Monument is to the right and the building is the Barrett Hotel.

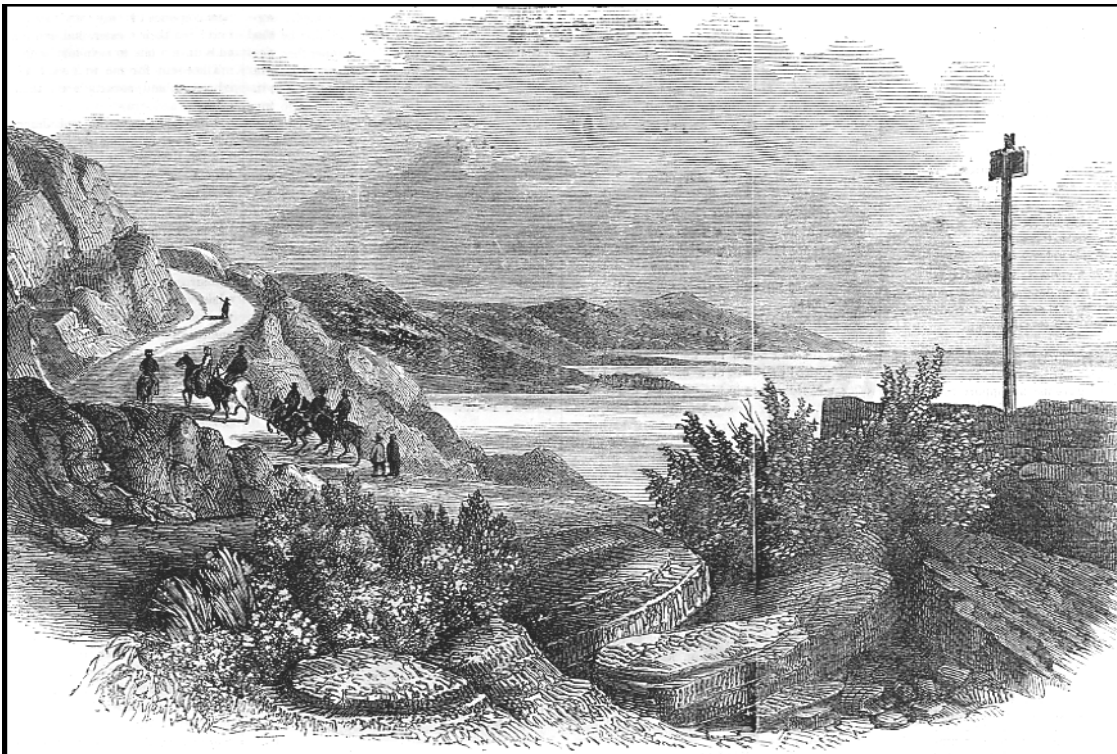


PHOTO III

Puhina O Lono Heiau (post to the right) and the Ka'awaloa Road, circa 1850s.

use being prohibited on much of the trail. Because the trail passes through privately owned lands and areas with significant cultural and archaeological resources, the need to restrict the public to the trail becomes a major concern.

The third access is the 20-foot wide, State-owned Cart Road that runs along the coast and intersects the lower portion of the Ka'awaloa Road. The presence of waterworn boulders suggests an earlier steppingstone trail. It is now a 4WD road that is used by fishermen accessing the shoreline of Ka'awaloa and neighboring Keōpuka.

Natural Terrestrial Resources

Lava flows in the park are estimated to date between 10,000 and 50,000 years old. Located on the southwestern, leeward slopes of Mauna Loa, a thin, stony volcanic soil overlies the *pahoehoe* and *a'a* lava flows interspersed with more recent lava flows in the Ka'awaloa *ahupua'a* where Ka'awaloa Flat consists of a 40-acre peninsula of lava at the northern end of the *pali*. Within the lava flows are volcanic features, such as lava tubes, lava bubbles, and *kipuka*.

The *pali* is a natural fault system with a 600-foot vertical face created by landslide and wave action. The *pali* measures approximately 1.5 miles in length. Kealakekua Bay was the site of a submarine volcanic eruption in 1877 that was preceded by a severe earthquake. Lava tube openings are visible in the *pali* face while other openings have been covered by landslides. Major earthquakes and landslides occurred in 1950 and 1951 with the most recent occurrence in 1983 following a magnitude 6.6 earthquake. The natural landscape of Kealekekua has been modified over time by these earthquakes and tsunami, as well as human land use.

The small beach area at Nāpo'opo'o was once a white sand beach but as a result of tsunami, hurricanes, and high surf, the beach was transformed to a coral and basalt boulder beach, beginning with Hurricane Nina in 1957 and climaxing with Hurricane 'Iniki in 1992. The Ka'awaloa area consists of a *pahoehoe* shoreline with sand limited to a few small storm beaches.

Behind Nāpo'opo'o Beach is a brackish water pond. At the time of Cook's arrival, the pond was described as an expanse of open water surrounded by coconut trees. Informants recall the pond was large enough for a canoe. Today, the pond is much reduced in size and has been filling with silt as a result of flooding and runoff from the *pali*. A similar marsh feature with standing water and reeds/sedges is found at Ka'awaloa.

The major change in the landscape occurred with the introduction of alien plant species. At the time of Western Contact, the shoreline settlements were marked by groves of coconut trees while the lands above the *pali* were covered by cultivated fields of sweet potato and dryland *kalo*. Today, many of the coconut trees are gone and the lands surrounding Kealakekua Bay are dominated by forests of *kiawe*, *opiuma*, and *ekoa* that were spread by ranching activities in the late 1800s.

Marine Resources

Kealakekua Bay is approximately 1.5 miles across, 1.0 mile wide, and 315 acres in size. As the largest sheltered natural bay on the island of Hawai'i, the bay is an attractive anchorage. The floor of the bay drops off steeply beyond about 10 fathoms and most of the marine life of the bay is concentrated in a narrow band of shallows along the shore. The marine environment of Kealakekua Bay, especially at Ka'awaloa Cove, is an excellent example of a small coral reef abutting the *pahoehoe* shoreline. This area is popular for snorkeling because of the abundance and diversity of reef fish and corals. Dolphins are also a major marine component of the bay.

The bay is designated a Marine Life Conservation District (MLCD) because of the wealth and diversity of marine resources. Over 100 species of fish have been observed. The diversity of habitats in the bay also supports an abundance and diversity of invertebrates, including molluscs, echinoderms, and crustaceans. There are 3 major coral reef zones in the bay (Fig. 6) (Marine Research Consultants, 1989):

- Nearshore Boulder Zone. Low coral cover (~11%) but high coral diversity, including *Porites lobata*, *Pocillopora spp.*, and *Pavona varians*. This zone is subject to the effects of wave stress. The majority of the fish are found in the shallow waters of the boulder and reef zones. Prominent fish species include the yellow tang (*lau'i pala*, *Zebrasoma flavescens*), the convict tang (*manini*, *Acanthurus triostegus*), and the goldring surgeonfish (*kole*, *Ctenochaetus strigosus*).
- Reef Terrace Zone. A coral reef lines the rim of the bay before sloping down into the deeper benthic zone, except at Nāpo'opo'o Beach which is a sandy bottom. This reef is dominated by *Porites lobata* (~65% coral cover). Dominant echinoderms are *Echinometra matthei* and *Echinostrephus aciculatus* which bore into the limestone surfaces. Also present are the red pencil urchins, *Heterocentrotus mammillatus*.
- Benthic Slope Zone. The slope from the reef terrace to the benthic zone (~60 foot depth) is dominated by the coral *Porites compressa* (95% coral cover).

Kealakekua Bay provides one of the few available resting areas for spinner dolphins (*nai'a*) on the island of Hawai'i. Other sites in South Kona include Hōnaunau and Ho'okena. Kealakekua Bay's configuration provides an important habitat for dolphins who prefer to spend daylight resting periods over sandy substrate in protected bays.

In the 1960s, a resident pod of 30-80 dolphins was reported in Kealakekua Bay (Doty, 1968). Today, the resident pod appears closer to 18 individuals but as many as a hundred dolphins may congregate in the bay (Soto-Amundson, pers. comm., March, 2000). They use the bay for feeding, resting, and playing. Much of their time in Kealakekua Bay occurs during the mid-morning hours.

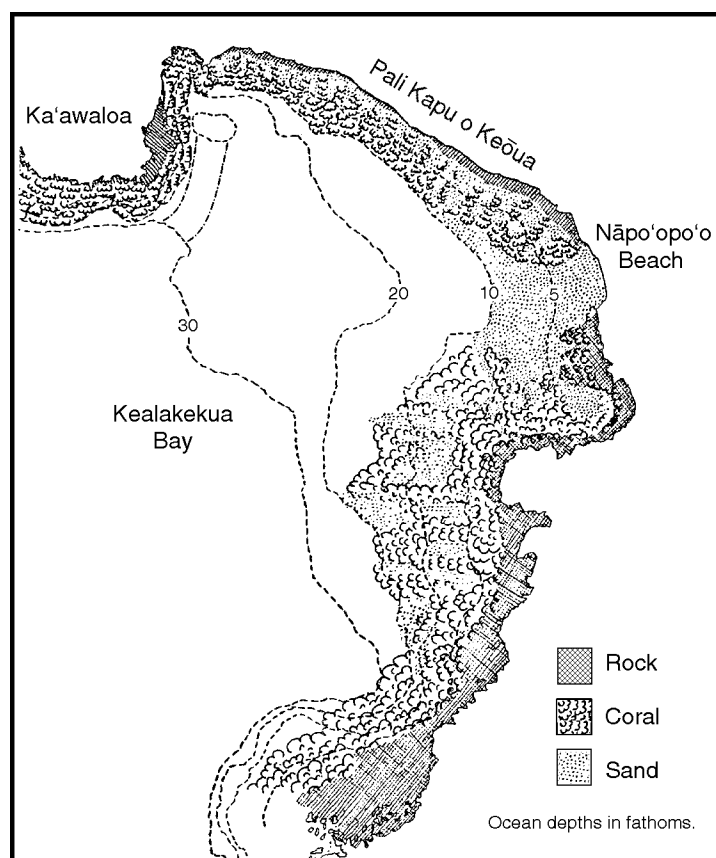


FIG. 6 - Dominant marine bottom types in Kealakekua Bay (Doty, 1968: 26).

Scenic Resources

Kealakekua Bay is an important scenic resource along the Kona coastline from both land and sea. With the steep *pali* and bay as the backdrop, Kealakekua is an ideal location for sharing Hawai'i's geological, natural, and cultural history. Being a natural fault, the *pali* is a key resource in the telling of the story of Kealakekua's geological history from either side of the bay, as well as, from the bay itself. The views between Nāpo'opo'o and Ka'awaloa link the sites and story of Kealakekua's cultural history, encompassing the chiefly compound at Ka'awaloa and the priestly compound at Nāpo'opo'o. The scenic resources related to the cultural history, however, extend beyond the park boundaries to include sites such as the Moku'ōhai battleground at Ke'ei to the south and the extension of the coastal settlements at Keōpuka to the north.

At present, much of the visitation is occurring by boating in Kealakekua Bay. The views from the outer bay offer a sweeping panorama from Keawekaheka Point in the north to Palemano Point in the south. Within the bay, the views are focused on the area from Cook Point to Manini Beach Point, including the Cook Monument (Fig. 3).

In the future, with park development and the opening of the Ala Kahakai to foot traffic, it is expected the views of the bay and the surrounding land area from the *pali* and upper Ka'awaloa Road will become more significant. Views from atop the *pali* are also panoramic and can orient park visitors to the Kealakekua area.

EXISTING CONDITIONS AND STUDIES

There have been a number of plans and studies conducted at Kealahou by the DLNR over the past several years that have continued to inventory the resources, identify the current level of visitation and recreational use of the area, and assess the impact of this use on the resources. In order to further assess the existing use patterns and visitation levels at the Ka'awaloa Section of Kealahou Bay SHP and Kealahou Bay in response to SCR 139, S.D. 1, a survey was conducted by State Parks staff on two separate days. The survey conducted on Thursday, July 26, 2001 reflects a weekday during the heavy summer season for Hawai'i tourism. The second survey, conducted on Saturday, October 13, 2001, was scheduled for a weekend day during the fall when tourism numbers are lower and when there might be a greater use of the area by residents of Kona. It should be noted that the impact on tourism by the events of September 11, 2001 is also reflected by the low visitation seen during the survey in October.

The survey consisted of two staffers stationed at Ka'awaloa, one at the Cook Monument where a range of activities in the bay could be observed, and the other at the end of the Ka'awaloa Road, where counts and observations were made of the kayak landings and arrival by hikers along Ka'awaloa Road. The visitation patterns were observed, the vessels and visitors were counted during half hour time periods, and visitors were interviewed about their visit. The findings and observations from these surveys are provided in Appendix B. This two day survey was intended to provide a general picture of the existing situation as a basis for evaluating acceptable levels of use. A year long user survey has been initiated by the DAR through a consultant contract with the University of Hawai'i. Upon completion of this survey by late summer of 2002, a more accurate database of users at Kealahou Bay will be available as a foundation to assess impacts on the aquatic resources of the bay.

Kealahou Bay State Historical Park

In the 1960s, the State initiated the establishment of a historical park at Kealahou in recognition of the historical and cultural significance of the bay and the surrounding lands. The acquisition of lands for the park began in 1967 and was completed in 1986. Although the parcels were acquired for park purposes, the land remains unencumbered State land and the transfer to State Parks has been delayed until State Parks prepares and obtains approval of the plans and regulatory documents for the park, including an Environmental Impact Statement and Conservation District Use Permit. In 1992, a park exchange transferred the County's Nāpo'opo'o Beach Park to the State for inclusion within Kealahou Bay SHP. At present, this 3.24 acre parcel is the only land under the jurisdiction of State Parks by Executive Order.

In 1997, the bay was transferred from State Parks to DOBOR, such that the park now encompasses only the 181 acres of land surrounding the bay. The large park area has been divided into 3 geographical areas for park planning and management (Fig. 7):

- Nāpo'opo'o. This portion of the park on the southern side of the bay, corresponds to the former priestly compound and settlement called Kekua at the time of Cook's

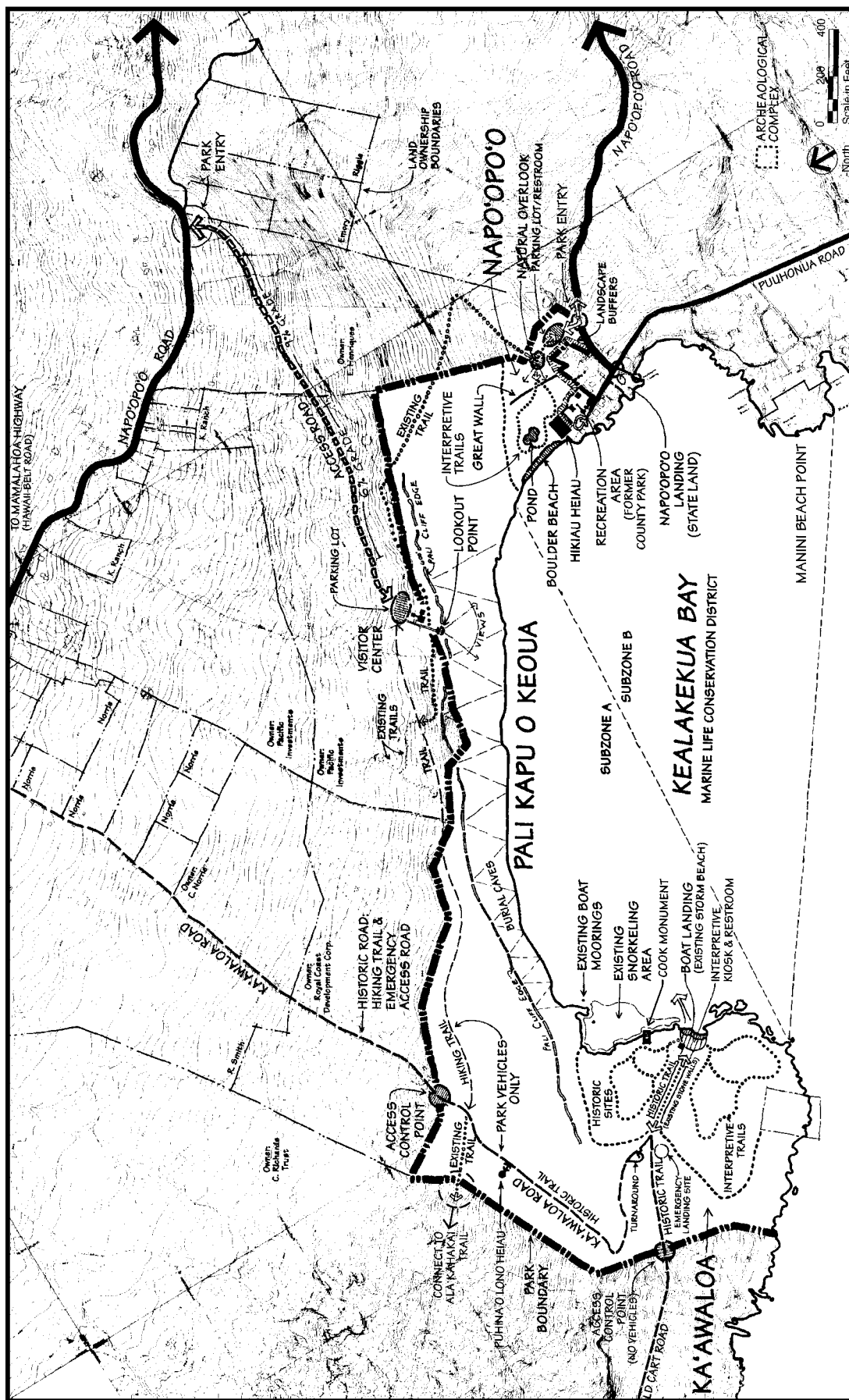


FIG. 7 - Park sections and elements of the Conceptual Plan for Kealahou Bay State Historical Park. (Taken from Belt Collins, 1997).

arrival. Today, Nāpo'opo'o refers to the small community along the southern edge of the bay and the small boulder beach at the end of Nāpo'opo'o Beach Road. The Nāpo'opo'o Section of the park encompasses 71 acres, about one third of the park area. This park area includes Hikiau Heiau, the beach area, and the former County park with a restroom and pavilion. This is the only portion of the park with existing infrastructure, including paved roads and utilities. Except for the developed, former County park, most of this section is covered by a dense growth of *kiawe* and *opiuma* trees with an understory of Guinea grass.

- Pali Kapu O Keōua. The central area on the eastern edge of the bay consists of a steep *pali* with remnants of the Kona Fieldsystem atop the *pali* and burial caves in the *pali* face. Since the late 1800s, the top of the *pali* has been used for ranching and much of the *pali* is covered by a dense growth of *kiawe* and *opiuma* trees with an understory of Guinea grass. The park consists of the *pali* face and an approximately 300-foot wide strip atop the *pali*, encompassing about 10 acres in area.
- Ka'awaloa. This portion of the park on the northern side of the bay corresponds to the former chiefly residence. Today, this area is marked by the Captain Cook Monument with an adjacent wharf and an intact complex of archaeological and cultural sites located on Ka'awaloa Flat. The public can access Ka'awaloa from either Ka'awaloa Road or the coastal Cart Road (refer to Fig. 3). While photographs suggest that Ka'awaloa was sparsely vegetated in the early 1900s, the dense *kiawe* forest was well-established by the 1950s. The Ka'awaloa Section encompasses about 100 acres.

Although the park is land-based, the lack of any historical park development means that much of the current park use involves access to the bay for ocean recreation. This ocean recreation includes swimming off Nāpo'opo'o Beach, kayaking between the Nāpo'opo'o and Ka'awaloa sections of the park, and snorkeling in Ka'awaloa Cove, with access to the cove from either the bay or Ka'awaloa Flat.

Visitation at the Nāpo'opo'o Section

Most visitors to Kealakekua Bay SHP drive down Nāpo'opo'o Road from Māmālahoa Highway to the intersection with the Beach Access Road. Turning right at the end of Nāpo'opo'o Road onto the Beach Access Road, it is a short distance (700 feet) to the end of the road and Hikiau Heiau where visitors park, walk to Nāpo'opo'o Beach, and take in the sweeping view across the bay, including the Cook Monument at Ka'awaloa. Parking at the end of the road is not well-delineated and the area will accommodate approximately 15 vehicles at a time.

At the intersection, visitors can drive straight onto the Nāpo'opo'o wharf and park their vehicles. The wharf parcel is under the jurisdiction of the DOBOR and many of those going to the wharf are kayakers who launch their kayaks from the wharf and paddle across the bay to Ka'awaloa.

Visitor and traffic counts for the Nāpo'opo'o section were conducted by Belt Collins Hawai'i in conjunction with the planning for the park (Table 2) (Belt Collins, 1997: 72-

TABLE 2
Visitation Pattern at Nāpo'opo'o*

Time	Friday, May 19, 1995			Saturday, May 20, 1995		
	Local Cars	Visitor Cars	Total #	Local Cars	Visitor Cars	Total #
8:00-9:00am	21	3	24	29	8	37
9:00-10:00am	26	12	38	35	25	60
10:00-11:00am	43	18	61	34	24	58
11:00am-12:00	24	20	44	23	21	44
12:00-1:00pm	26	15	41	35	19	54
1:00-2:00pm	24	14	38	11	12	23
2:00-3:00pm	27	20	47	40	26	66
3:00-4:00pm	31	15	46	21	17	38
4:00-5:00pm	31	15	46	15	8	23
TOTAL	253	132	385	243	160	403
% of Total	66%	34%	100%	60%	40%	100%

* Number of cars.

TABLE 3
Visitation Pattern at Ka'awaloa Flat*

Time	Thursday, July 26, 2001					Saturday, October 13, 2001				
	Hiker	Horse	Kayak	Swim	Total	Hiker	Horse	Kayak	Car	Total
8:00-9:00am	0	0	0	0	0	0	0	2	0	2
9:00-10:00am	0	0	33	1	33	0	0	16	0	16
10:00-11:00am	0	0	32	0	32	3	6	22	0	31
11:00am-12:00	2	9	8	0	19	0	0	9	0	9
12:00-1:00pm	1	0	10	0	11	0	0	8	0	8
1:00-2:00pm	0	0	4	1	4	1	0	0	0	1
2:00-3:00pm	0	0	3	0	3	0	0	0	10	10
3:00-4:00pm	0	0	0	0	0	1	0	0	0	0
TOTAL	3	9	90	2	104	5	6	57	10	78
% of Total	3%	8.5%	86.5%	2%	100%	6%	8%	73%	13%	100%

* Number of persons by mode of transportation.

** Visitation on October 13, 2001 reflects both the general seasonal pattern for lower visitation in September-October, but also the impacts on tourism from the events of September 11, 2001.

79). The counts were conducted in November, 1994 and May, 1995 at the intersection of the Beach Access Road and Nāpo'opo'o Road (Lower Government Road). These counts covered a 12-hour period (6:00am to 6:00pm) on both weekdays and weekends. The surveys found that the level of visitation is comparable to Pu'uhonua o Hōnaunau National Historic Park, which is located 4 miles south of Kealahakua. However, a large percentage of the visitation to Pu'uhonua o Hōnaunau is by bus (65%).

The survey at Nāpo'opo'o indicated the following:

- The majority (65%) of the vehicle traffic through the Nāpo'opo'o area is local, consisting of residents from the Nāpo'opo'o and South Kona area. Many of these residents drive through the park and do not stay.
- The majority of visitors arrive in cars. On an average day, 150 to 200 cars enter the park at Nāpo'opo'o, depending on the season, weather conditions, and tourism trends. Since 1992, the level of visitation and vehicle traffic on Nāpo'opo'o Beach Road have dropped as a result of the shift from a sand beach to boulder beach at Nāpo'opo'o.
- Most visitors come in small groups of 2 to 4 individuals, with an average of 2.2 persons per car.
- The daily visitor estimates ranged from 485 to 675. Based on a daily visitation count of 500, an annual visitation count around 182,500 is estimated.
- The majority of visitors arrive mid-day (Table 2). During this peak time, there are 22 to 28 cars per hour. A maximum of 40 cars per hour was observed during the 1995 survey.
- Tour groups comprise a small percentage of the total visitation. There are only 3 to 5 buses per week.
- Approximately half the vehicle traffic goes directly to Nāpo'opo'o wharf (Photo IV). At the time of the survey, there was a kayak concession at the wharf which may have affected these counts.

The length of stay varies with the activities conducted in the park. For those visitors who only stop and take in the views, the visit averages 5 to 15 minutes. For those who picnic or take part in an ocean recreation activity, the visit averages 1 to 2 hours. Visitors, usually residents of Kona, who participate in gatherings at the Nāpo'opo'o pavilion may stay longer than 2 hours.

There are currently no interpretive signs available in the park to inform visitors about the natural and cultural history of Kealahakua. The few metal signs located are the wharf and at the end of Nāpo'opo'o Beach Road are mostly regulatory in nature and center around the MLC and the Spinner Dolphins.



PHOTO IV

Nāpo'opo'o wharf in March, 2000. Parking is not delineated and kayaks launch off the landing to the left of the photo.



PHOTO V

View across the bay to Ka'awaloa from Nāpo'opo'o wharf. Fairwind is at one of the mooring sites at Ka'awaloa Cove.

Visitation to the Kaʻawaloa Section by Land

Land access to the Kaʻawaloa section of the park is limited to hiking, horseback riding, and 4WD vehicles. Hikers and horseback riders can use either the Kaʻawaloa Road or the coastal Cart Road through private parcels to the north of the park (Fig. 3). Although Kaʻawaloa Road is mentioned in hiking books, the trail is not marked with a sign along Nāpoʻopoʻo Road or at the trailhead. From staff observations, the trail is not heavily travelled by hikers but is used regularly by horse tours. The Kaʻawaloa Road has become largely impassable by vehicle due to erosion of the rocky dirt road. Therefore, those driving to Kaʻawaloa tend to use the Cart Road and many use the *mauka-makai* road in the Keōpuka property north of Kaʻawaloa. Many of these vehicles are local fishermen from the Kona area.

The King's Trail Rides is a commercial operation that provides daily, guided horse tours to Kaʻawaloa (Sally Ingster, pers. comm., October 13, 2001). This business is located on Māmālahoa Highway in Kealahue, a short distance from the Kaʻawaloa Road. The tour takes the Kaʻawaloa Road down to Kaʻawaloa Flat where the horses are tied up alongside the lower section of the Kaʻawaloa Road. The trip is a total of 4.5 hours with 2 hours at Kaʻawaloa where the visitors snorkel from the monument wharf. Lunch is provided in a clearing adjacent to the monument. The tour is led by one of the owners, David and Sally Ingster, with an assistant. DLNR is not currently permitting or regulating these horse tours.

The visitation to Kaʻawaloa on July 26, 2001 (Thursday) and October 13, 2001 (Saturday) is shown in Table 3. In regards to those visitors accessing Kaʻawaloa by land, the survey indicated the following:

- Hikers use the Kaʻawaloa Road (Photo VI). The average time to hike from Nāpoʻopoʻo Road to the Cook Monument is 45-60 minutes.
- The average stay of hikers varies greatly, from 20 minutes to 4.5 hours for the hikers observed on October 13, 2001. Most hikers end up at the Monument and enter the water from the wharf (Photo VII).
- The horse tour comes daily, if there are clients. The number can vary, but a maximum of 6 plus 2 guides is advertised.

Visitation to the Kaʻawaloa Section by Water

Other visitors access Kaʻawaloa Flat by water, either by boating or swimming (Photo V). The majority accessing Kaʻawaloa Flat by water are visitors who have rented a kayak from one of a number of kayak rental businesses in Kona. They depart from the Nāpoʻopoʻo wharf, paddle across the bay, and haul up their kayaks along the shoreline in the Kaʻawaloa section of the park. Over the past 5 years, the *kiawe* trees along the shoreline have continued to grow toward the edge of the *pahoehoe* shoreline at Kaʻawaloa Cove. This means that fewer sections of this shoreline are available for the beaching of kayaks. As a result, most of the kayaks are landing in selected areas between the end of the Kaʻawaloa Road and the Cook Monument (Fig. 8).

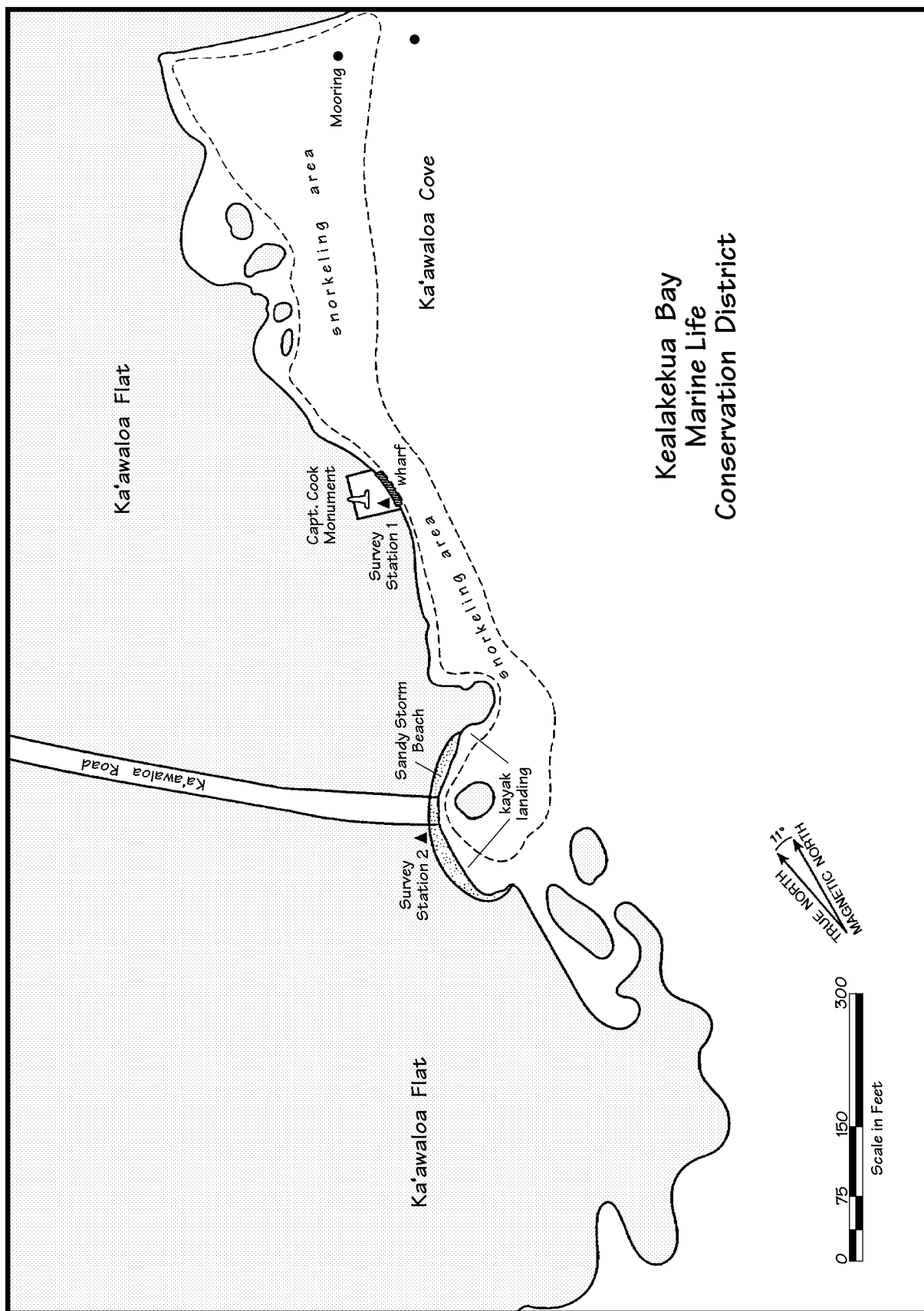


FIG. 8 - Survey stations and visitor use areas at Ka'awaloa Flat and Ka'awaloa Cove.



PHOTO VI

Hiker on the lower portion of Ka'awaloa Road. Ka'awaloa Flat is generally covered by a dense growth of *kiawe*, *opiuna*, and *ekoa* trees.



PHOTO VII

Activity on the wharf at the Cook Monument on July 26, 2001 (about 10:30am). Users include permitted commercial zodiacs, kayakers, and snorkelers.

In regards to those visitors accessing Kaʻawaloa Flat by kayak, the survey on July 26, 2001 (Thursday) and October 13, 2001 (Saturday) indicated the following:

- Kayakers tend to spend 1.5 to 2 hours at Kaʻawaloa. After pulling up their kayaks, they walk to the monument, take pictures, and then go snorkeling in the cove area.
- Most of the kayakers snorkel from the end of Kaʻawaloa Road toward the cove, rather than accessing the water from the Monument.
- All the kayakers arriving from Nāpoʻopoʻo land at Kaʻawaloa Flat and most pull up their kayaks on the *pahoehoe* shoreline around the end of the Kaʻawaloa Road (Table 4 and Photo VIII).

The commercial boat tours permitted in Kaʻawaloa Cove originate from Keauhou or Honokōhau Harbor. These boats include fixed hull boats and zodiacs of various capacities (Photo IX). Their passengers are not permitted to go ashore. These visitors who do not land are discussed in the following section on Kealakekua Bay.

TABLE 4
Kayak Landings at Kaʻawaloa Flat
(Saturday, October 13, 2001)

TIME OF LANDING	LANDING SITE BY KAYAK			# OF PEOPLE LANDING
	Monument	Inbetween	End of Road	
8:00-9:00am	1	0	0	2
9:00-10:00am	1	7	1	18
10:00-11:00am	0	2	9	19
11:00am-12:00pm	0	5	1	10
12:00-1:00pm	1	1	3	8
1:00-2:00pm	0	0	0	0
2:00-3:00pm	0	0	0	0
3:00-4:00pm	0	0	0	0
TOTAL	3	15	14	57
% OF LANDING SITE	9%	47%	44%	100%

Facilities and Staffing

Park facilities are limited to the Nāpoʻopoʻo section of the park. Many of these facilities were constructed when the parcel adjacent to Hikiau Heiau was a County park. They include a restroom and pavilion built in the late 1950s, a grassed ballcourt and a parking area alongside the end of the Nāpoʻopoʻo Beach Road. The cesspool and restroom have not functioned properly since the early 1990s and there are plans and

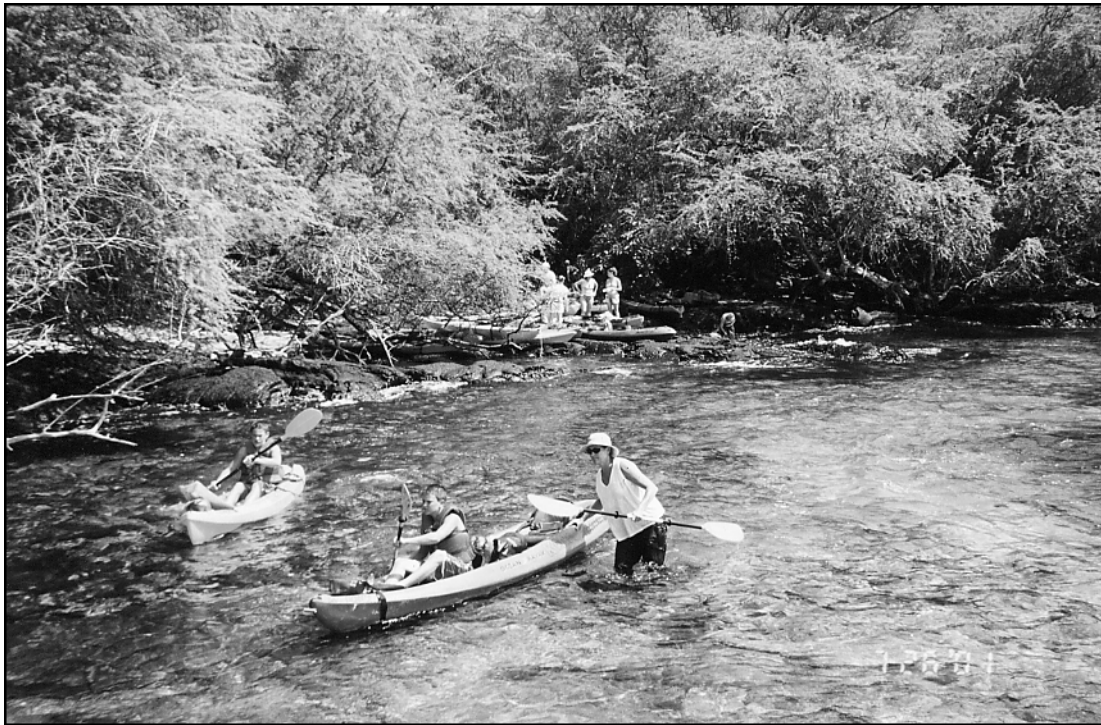


PHOTO VIII

Kayaks hauled up on *pahoehoe* at end of the Ka'awaloa Road.
Photograph taken about 10:30am on July 26, 2001.



PHOTO IX

Commercial vessels in Ka'awaloa Cove on July 26, 2001, including the Fairwind II, Orca (large zodiac), and other permitted zodiacs.

funds available to build an interim replacement restroom and pavilion in the location of the existing pavilion. This will allow for the removal of the existing restroom adjacent to Hikiau Heiau. Ka'awaloa is a remote location with no restroom facilities.

One of the existing problems is the lack of personnel assigned to Kealahou Bay SHP. The one State Parks caretaker position assigned to Kealahou Bay SHP is restricted to the Nāpo'opo'o section of the park because this is the only parcel over which State Parks has jurisdiction. This caretaker maintains the restroom, pavilion, and grounds associated with the former County park.

Nāpo'opo'o wharf, under the jurisdiction of DOBOR, provides a facility to park cars and launch kayaks into the bay. The wharf was originally constructed in 1894 for loading and unloading boats that transported mail and cargo for the Kealahou community. The existing concrete structure was built in 1912 with the landing situated several feet above the water level. Therefore, the wharf is not considered ideal for the launching of kayaks and safety issues have been raised about the continued use of this structure.

Park Planning

In 1994, the Division of State Parks initiated the first comprehensive planning for Kealahou Bay SHP with consultant Belt Collins Hawai'i. In 1997, the Conceptual Plan for the park was completed. This plan addressed an inventory of the natural and cultural resources in the park, desired levels of visitation, recommended facilities and infrastructure for this visitation, and measures for resource protection. The major elements of this Conceptual Plan are (refer to Fig. 7):

- Construction of a visitor interpretive center with parking atop the *pali*. This location was selected to minimize the impacts of visitation and traffic on the communities of Nāpo'opo'o and Ke'ei. This location also offers panoramic views of Kealahou Bay that would facilitate the interpretation of the natural and cultural history of the area.
- Minimal development at Ka'awaloa to protect the archaeological sites and historical setting of the royal center. Improvements would be limited to selective vegetation clearing, reconstruction of the Barrett Hotel as an interpretive shelter with restroom facilities, and interpretive trails through the archaeological complex. Interim management needs were recognized, such as the need for restroom, trash facilities and a park staff presence, if public use of the area is going to continue.
- Low-scale development at Nāpo'opo'o would facilitate beach access, recreational use of the park adjacent to Hikiau Heiau, and interpretation of the archaeological complex. Facilities would be limited to a paved parking area, a second restroom and small interpretive shelter in the *mauka* portion, and interpretive trails.

A Development Plan for the Nāpo'opo'o section with interim management for the Ka'awaloa section of the park was drafted, but has been set aside until an Environmental Impact Statement (EIS) is prepared for the park. The EIS process will involve expanded community involvement and a reassessment of the plans relative to any changes that have occurred since the Conceptual Plan was completed in 1997.

Kealakekua Bay

Ocean-related activities are the most popular form of recreation among visitors to Hawai'i. The popularity of Nāpo'opo'o Beach for swimming and sunbathing declined after 1992 when the beach shifted from sand to boulders. However, Kealakekua Bay remains a major tourist destination that is also popular with local residents. The bay is jointly managed by DOBOR and DAR.

Kealakekua Bay Marine Life Conservation District

Marine Life Conservation Districts (MLCD) are designated to conserve and replenish marine resources by limiting fishing activities and creating a protected environment. The Kealakekua Bay MLCD, consisting of 315 acres, was established in 1969 in recognition of its nearly pristine water, diversity of marine life, and schools of *akule* and *opelu*. The MLCDs foster passive ocean recreation, such as swimming, snorkeling, and diving. Three snorkeling areas are identified within the Kealakekua Bay MLCD:

- Area between Nāpo'opo'o wharf and Manini Beach Point. Encrusting coral, caves, crevices, and ledges can be found in waters up to about 30 feet deep.
- Area adjacent to the *pali*. Abundant coral growth and marine life can be seen in waters of about 5 feet deep.
- Ka'awaloa Cove. The diversity of coral and fish at depths between 5 and 120 feet are considered exceptional.

Within the bay are 2 subzones (refer to Fig. 3). Subzone A encompasses the northern portion of the bay from Cook Point at Ka'awaloa to Nāpo'opo'o Beach. Ka'awaloa Cove is in this subzone and is noted for its coral reef, diversity of reef fish in shallow water, and calm conditions for snorkeling. No fishing, taking of marine life, or anchoring is permitted in this subzone. However, there are two recognized mooring pins in the Cove for permitted vessels. Subzone B encompasses the southern portion of the bay to Manini Point where hook and line and thrownet fishing are permitted.

Ka'awaloa Cove

A major resource of the Kealakekua MLCD is the coral reef at Ka'awaloa Cove. The water off the Cook Monument is about 4 feet (1.3 meters) in depth, such that snorkelers are able to stand. The bottom at this depth is composed of coralline algal pavements with frequent and scattered small corals. At a distance of 13 feet (4 meters) from the seawall, the water becomes deep enough to prevent foot traffic. Coral cover and diversity increase significantly at this depth and it is reasonable to assume that the impacts from walking and boating are minimal at this greater depth. Extensive impacts on the coral cover was noted along the seawall used as a kayak landing and an entry/exit for swimming and snorkeling.

By comparison, the shallower water (1.5 to 3.0 feet or 0.5 to 1.0 meter in depth) extends out 130 feet (40 meters) from the end of the Ka'awaloa Road. The bottom is

characterized by sand and algal pavements with loose cobbles and boulders. No living, dead, or remnant corals were observed within this zone. A survey found a live coral cover of 9.43% at the end of the Kaʻawaloa Road compared to 48.38% off the monument. The corals were not recorded within 32 feet of the *pahoehoe* shoreline in a survey transect from the end of the Kaʻawaloa Road (Whitcraft and Robichaux, 2000). Part of this pattern may be the result of a wharf constructed at the end of Kaʻawaloa Road in the late 1800s to load cattle onto the ships in the bay and where kayaks have landed with some regularity since the early 1990s.

The fish and selected invertebrates are monitored bimonthly at Keʻei, Keōpuka, and Kaʻawaloa as part of the West Hawaiʻi Aquarium Project (WHAP). A separate project takes a yearly census of the fish population at Kaʻawaloa and several other locations within Kealakekua Bay. The aquatic biologists from DAR have not noted any negative changes over the past 3 years at the Kaʻawaloa and Kealakekua Bay sites. In fact, they recorded a good fish recruitment in summer 2001 which suggests that there might actually be an increase in the fish population. As a protected area, the fish population of Kealakekua tends to be good, irrespective of visitation. Based on the annual DAR survey data, analyses have shown that the biomass has more than doubled over the last 30 years (Fig. 9).



FIG. 9 - Biomass in Kealakekua Bay based on 30 years of annual survey data by DAR.

Naiʻa (Spinner Dolphins)

There have been several research studies conducted with the pod of spinner dolphins in Kealakekua Bay in an attempt to understand the impact of human activity on the behavior of the dolphins who frequent the bay for resting, social interaction, and care of the young. Only a small percentage of the pod is found to interact with humans through such activities as riding the bow wave of a boat or swimming with those in the water. Dolphins have the ability to “tune out” non-threatening events and will tolerate such “harmless” events after an initial reaction or change in behavior, especially those events that happen with some regularity, such as the regular boat tours and visits by tourists and researchers. Researchers believe that they can ignore outside distractions

when they are busy feeding, but can be disturbed if approached too quickly or too close. When disturbed, the dolphins respond with evasive action that disrupts their pattern of feeding or resting. However, researchers also point out that the dolphins may exhibit subtle shifts in behavior in response to humans that is not always recognized as an impact to their health or social interaction (Wursig, n.d.).

Speakers at various community meetings conducted by State Parks have indicated that there are people in the Kealahou community who regularly swim with the pod of dolphins in Kealahou Bay (Steve Soto-Amundson, pers. comm., 1999). It was also reported by the community that kayakers have a tendency to paddle towards the pod of dolphins when they are in the bay. It is believed that much of this activity occurs early in the morning from the Nāpō'opo'o shoreline. None of this activity was witnessed during the survey conducted on July 26 and October 13, 2001.

Three of the DOCARE officers assigned to West Hawai'i have been deputized to enforce the Federal laws in Hawai'i that relate to the Marine Mammals Protection Act, the Endangered Species Act, and the Magnuson Act. The dolphins in Kealahou Bay come under the Marine Mammals Protection Act and the Federal guidelines call for people to keep a distance of 50 yards from the dolphins. Because of limited resources and staff, DOCARE is only able to patrol the waters of Kealahou Bay about once every 3 months and provide initial response to complaints that are then forwarded to the National Marine Fisheries Service (NMFS). Discussions are currently underway for NMFS to provide funding to DOCARE to expand staffing and increase DOCARE's ability to enforce these Federal laws related to the protection of marine mammals and endangered species.

Visitation of Ka'awaloa Cove and Kealahou Bay

Visitation to Ka'awaloa Cove and Kealahou Bay by water involves commercial boat tours, kayak rentals, private boats and kayaks, and swimming. The majority of these visitors are arriving in the bay to participate in snorkeling activities at Ka'awaloa Cove. The arrival of vessels at Ka'awaloa during the surveys conducted on July 26 and October 13, 2001 are shown in Tables 5 and 6.

The commercial boat operators who use Ka'awaloa are permitted by DOBOR. At present, there are 5 commercial boat tour operations with a total of 11 vessels that have permits for Kealahou Bay. The ramp permits are given to the individual vessels for their departure from either Keauhou or Honokōhau. The permitted capacity and trips per day is shown in Table 7. Fairwind, Inc. and Hawaiian Cruises are authorized to use the two moorings at Ka'awaloa Cove.

The survey on Thursday, July 26, 2001 and Saturday, October 13, 2001 recorded the arrival of these commercial vessels, the number of visitors and operators on each vessel, and the general visitation pattern. The pattern on July 26 most closely resembled the permitted numbers of visitors and the number of daily trips by each vessel (Table 8). However, not all the vessels with permits took tours to Ka'awaloa on July 26 and the total visitation number was below the average daily visitation calculated by DOBOR from vessel capacity. On October 13, most of these companies were

TABLE 5
Visitation to Kaʻawaloa by Vessel
Thursday, July 26, 2001

Time	Rental and Tour Boats				Private Boats				Total
	Kayak	Zodiac	Fixed Hull	Large Boat	Kayak	Zodiac	Fixed Hull	Canoe	
8:00-9:00am	5	2	0	0	0	0	0	0	7
9:00-10:00am	18	5	0	1	0	0	0	0	24
10:00-11:00am	16	2	0	0	0	0	0	0	18
11:00am-12:00pm	7	4	1	0	0	0	0	0	12
12:00-1:00pm	6	0	0	0	0	0	0	0	6
1:00-2:00pm	3	0	1	0	0	0	0	0	4
2:00-3:00pm	1	3	1	0	0	0	2	0	7
3:00-4:00pm	0	0	0	1	0	0	2	0	3
TOTAL	56	16	3	2	0	0	4	0	81
% OF TOTAL	69%	20%	4%	2%	0	0	5%	0	100%

TABLE 6
Visitation to Kaʻawaloa by Vessel
Saturday, October 13, 2001

Time	Rental and Tour Boats				Private Boats				Total
	Kayak	Zodiac	Fixed Hull	Large Boat	Kayak	Zodiac	Fixed Hull	Canoe	
8:00-9:00am	1	1	0	0	0	0	0	0	2
9:00-10:00am	8	1	0	1	0	0	0	1	11
10:00-11:00am	12	1	3	0	0	0	0	0	16
11:00am-12:00pm	6	1	0	0	0	1	0	0	8
12:00-1:00pm	5	0	0	0	0	0	1	0	6
1:00-2:00pm	0	2	1	0	0	0	0	0	3
2:00-3:00pm	0	0	0	0	0	0	0	0	0
3:00-4:00pm	0	0	0	0	0	0	0	0	0
TOTAL	32	6	4	1	0	1	1	1	46
% OF TOTAL	70%	13%	9%	2%	0	2%	2%	2%	100%

TABLE 7
Permitted Commercial Vessels and Visitation in Kealakekua Bay

COMPANY	VESSEL	CAPACITY PER VESSEL		TRIPS PER DAY	AVERAGE DAILY VISITATION
		Maximum	Average		
Fairwind Inc.	Fairwind II	133	80-110	2	180
Hawaiian Cruises	Orca	14	10	2	20
Kona Zodiac, Inc.	Puanani	20	12	1	12
	Mahealani	18	12	2	24
	Iwalani II	18	12	2	24
	Patricia	16	10	1	10
Merrill, Inc.	Nai'a Mana	6	6	2	12
Sea Quest	Sea Quell	18	12	2	24
	Sea Quest	6	4	2	8
	Makana	6	4	2	8
	Malie	6	4	2	8
TOTAL		261	166-196	20	330

TABLE 8
Observed Commercial Visitation at Ka'awaloa Cove

COMPANY	VESSEL	Thurs, July 26, 2001		Sat., October 13, 2001	
		Trips per day	Visitation	Trips per day	Visitation
Fairwind Inc.	Fairwind II	2	~140	1	~45
Hawaiian Cruises	Orca	2	25	2	26
Kona Zodiac, Inc.	#1	2	29	1	6
	#2	2	23	-	-
	#3	-	-	-	-
	#4	-	-	-	-
Merrill, Inc.	Nai'a Mana	1	8	1	3
Sea Quest*	#1	2	14	1	6
	#2	2	14	1	3
	#3	2	14	-	-
	#4	2	14	-	-
TOTAL		17 trips	281 visitors	7 trips	89 visitors

* Morning tour involves brief 10 minute stop at the Monument, leaves Kealakekua to go to Hōnaunau, and returns in afternoon for snorkeling at Ka'awaloa (same visitors being counted twice on July 26).

carrying numbers below their capacity with fewer vessels operating, a lower number of trips per day, and a lower number of visitors per vessel.

There are also chartered fishing boats entering Kealakekua Bay with DOBOR permits. Some of these boats disembark passengers in the water at Ka'awaloa Cove for snorkeling or scuba diving. These boats were considered commercial vessels during the surveys of July and October, 2001. In an effort to understand the significance of the commercial operations on the visitation of Ka'awaloa Cove, a summary of visitation by person was calculated for July 26, 2001 as shown in Table 9. If it can be assumed that the visitation of July 26, 2001 is representative of the general pattern for the heavy summer season, then, commercial boat operations bring 70% of the visitors to Ka'awaloa, while the commercial horse tours bring an additional 2%. The next highest number of visitors, 23%, arrive by rental kayaks. Only a very small number (5%) of the visitors to Ka'awaloa Cove arrive by hiking or private boat.

An analysis of the rental kayaks and the commercial vessels accessing Ka'awaloa Cove is shown in Table 10. This table shows the following:

- The Fairwind II, a single vessel making 2 trips a day, constitutes only 2% of the vessel total, but brings a third of the visitors to Ka'awaloa.
- The commercial zodiac tour boats comprise 20% of the vessel total and they bring another third of the visitors to the bay.
- The rental kayaks, on the other hand, constitute 69% of the vessel total, but only 24% or one fourth of the visitors to Kealakekua Bay.

During the surveys in 2001, the general visitation pattern of the boats, other than the kayaks, entering Ka'awaloa Cove was observed. Some of the pattern is reflected in Tables 9 and 10 and summarized below.

- Most of the boat traffic in the bay is in the morning, between 9:00am and 12:00pm.
- Most of the permitted boat companies do both a morning and afternoon tour to Kealakekua Bay.
- The average stay for boats in the bay is 1.5 hours.
- Visitors from the commercial tours do not land on shore or climb on the wharf at the Monument.
- The pilots from the commercial tours give visitors a safety briefing before they go into the water. These briefings include both snorkeling tips and protection of the resources in the bay.

Commercial Boating Operations

The Fairwind has been taking tours to Kealakekua since 1971 and Hawaiian Cruises

TABLE 9
Summary of Visitation at Ka'awaloa Cove on July 26, 2001 by Person

TIME	LAND ACCESS		WATER ACCESS			TOTAL
	Hikers	Horse Tours	Rental Kayaks	Commercial Boats*	Private Boats	
8:00-9:00am	0	0	9	14	0	23
9:00-10:00am	0	0	33	127	0	160
10:00-11:00am	0	0	32	22	0	54
11:00am-12:00pm	2	9	8	27	0	46
12:00-1:00pm	1	0	10	0	0	11
1:00-2:00pm	0	0	4	6	0	10
2:00-3:00pm	0	0	3	31	11	45
3:00-4:00pm	0	0	0	70	8	78
TOTAL	3	9	99	297	19	427
% OF TOTAL	0.5%	2%	23%	70%	4.5%	100%

* Includes both permitted commercial vessels and other fishing boats thought to be commercial.

TABLE 10
Summary of Visitation to Ka'awaloa Cove on July 26, 2001 by Vessel

TIME	KAYAK	COMMERCIAL VESSEL			PRIVATE VESSEL	TOTAL
		ZODIAC	FAIRWIND	FISHING		
8:00-9:00am	5	2	0	0	0	7
9:00-10:00am	18	5	1	0	0	24
10:00-11:00am	16	2	0	0	0	18
11:00am-12:00pm	7	4	0	1	0	12
12:00-1:00pm	6	0	0	0	0	6
1:00-2:00pm	3	0	0	1	0	4
2:00-3:00pm	1	3	0	1	2	7
3:00-4:00pm	0	0	1	0	2	3
TOTAL	56	16	2	3	4	81
% OF VESSELS	69%	20%	2%	4%	5%	100%
# OF VISITORS	99	141	~140	16	19	415
% OF VISITORS	24%	34%	34%	4%	4%	100%

began their tours in 1978. However, the permitting of commercial boating in Kealakekua Bay was not initiated until 1991 when the Division of State Parks issued two special use permits for the two mooring sites at Kaʻawaloa Cove. These permits were subject to annual renewal. The Fairwind was permitted to use one of the moorings with a large catamaran vessel that holds up to 149 passengers. Hawaiian Cruises had a permit for the second mooring and used the Captain Cook VII, a large boat that could carry up to 200 passengers, in the early 1990s. In 1995, Hawaiian Cruises changed to a smaller boat that carried 49 passengers and in 1996, began using a large zodiac, named the Orca, that carries 16 passengers. The Fairwind reports that it brought over 50,000 visitors a year to Kealakekua Bay in 2000. The Fairwind passenger counts from 1995 to 2001 is presented in Appendix B.

There were several conditions in these permits from State Parks that were intended to assist with the preservation of the archaeological sites of Kaʻawaloa Flat and the marine resources of Kaʻawaloa Cove. Specifically, these conditions on the permits included:

- Boats are not to discharge any waste into the bay. Both of the large vessels contained toilet facilities, as does the Fairwind II today.
- Permittees will conduct a monthly litter clean-up at Kaʻawaloa which the Fairwind continues to do (Mendy Dant of Fairwind, pers. comm., October 26, 2001).
- Permittees will implement a discounted tour program for public school students by donating 500 tickets per year to the Department of Education.
- Permittees will assist the State in monitoring any illegal moorings or anchorings within Kealakekua Bay and report such unauthorized activities.
- The permitted boats are not to interfere or obstruct with the general public's use of the bay.

The permitting of the two moorings at Kaʻawaloa was taken over by DOBOR in 1997 when jurisdiction of the bay was transferred from State Parks. Also in 1997, DOBOR began issuing annual commercial ramp use permits for either Keauhou or Honokōhau to the commercial zodiac tours that use Kealakekua Bay. In 1999, a ceiling on these ramp use permits was established by DOBOR with a waiting list for permit openings. A ramp use permit allows for the loading and unloading of passengers at designated ramp sites only. This means that passengers can snorkel from the vessel, but cannot go on shore at Kaʻawaloa or Nāpoʻopoʻo. The rules of the MLCD prohibit the vessels from anchoring in Kaʻawaloa Cove and they must float while their passengers snorkel. Similar permits and rules apply to the chartered fishing and scuba tours.

The main activity for these commercial tours involves snorkeling from the boats in Kaʻawaloa Cove for a period of 1.5 hours. The Fairwind also provides lunch aboard their boat during the morning cruise into Kealakekua which extends their morning visit in the bay to 2.5 hours.

IMPACTS OF VISITATION ON THE RESOURCES

This assessment of the impacts of visitation on the resources at Ka'awaloa should be considered a preliminary assessment at this time. While some limited studies have been conducted on the impacts to the corals and dolphins, many of these studies are hampered by the relative short time period over which the evaluation was made. Other studies are underway, such as a year-long user survey by DAR, that will provide a better foundation for understanding the activities that are occurring and the seasonal pattern for these activities. This assessment is also based on staff observations over the past 10 years or so.

According to tour operators, there was a major downturn in tourism in 1992 after Hurricane 'Iniki. By 1995, visitation at Kealakekua had risen to the pre-1992 level and appeared to be continuing to increase until September 11, 2001 (see visitor counts for the Fairwind in Appendix B). The annual visitation to Kealakekua Bay in 2000 is estimated to be in the range of 129,000 based on the permitted capacity of the vessels, the observed visitation during the surveys on July 26 and October 13, 2001, and an annual visitation count provided by one of the commercial operators (Table 11). As mentioned before, the commercial boat tours and kayak rentals account for about 95% of the visitors to Ka'awaloa.

TABLE 11
Estimated Annual Visitation to Ka'awaloa Cove

Mode of Transportation		Daily Visitation (Maximum)	Annual Visitation (Maximum)	Annual Visitation (~75% of Max)
Ocean Access - Commerical Vessels	Fairwind II	180	65,700	50,000
	Hawaiian Cruises	20	7,300	5,000
	Kona Zodiac	70	25,550	19,000
	Merrill, Inc.	12	4,380	3,000
	Sea Quest	48	17,520	13,000
	Subtotal	330	120,450	90,000
Ocean Access - Rentals & Private Vessels	Kayaks	100	36,500	27,000
	Fishing	16	5,840	4,000
	Private	19	6,935	5,000
	Subtotal	135	49,275	36,000
Land	Horse Tours	8	2,920	2,000
	Hikers	3	1,095	800
	Vehicles	1	365	200
	Subtotal	12	4,380	3,000
TOTAL		477	174,105	129,00

Marine Resources of Kaʻawaloa Cove

Since an estimated 97% of the visitors to Kaʻawaloa arrive by ocean vessels and close to 100% of the visitors participate in snorkeling activities in Kaʻawaloa Cove, it is expected that the marine resources will be the most directly impacted by visitation. Coral reefs are extremely fragile ecosystems that can be threatened by cumulative ecological impacts, such as overfishing, sediment runoff, nutrient pollution, and tourism. Snorkelers may step or sit on corals, hit coral heads with their fins, and feed the fish. The impacts of tourism on the reefs have been documented at Hanauma Bay on Oʻahu and there have been several studies conducted through DLNR that address the impacts to the corals at Kaʻawaloa (Whitcraft and Robichaux, 2000; Tissot and Hallacher, 2000). Direct contact with coral usually removes protective mucous layers and bruises sensitive surface tissues. The impacts are magnified by the numbers of people present in the water over time. Visible short-term impacts include broken coral, dead patches, and scuffed areas overgrown by algae. Coral reef management systems may include limiting the number of people with access to an area of coral reef at a given time, rotation of snorkeling or diving areas, and periodic closing of areas.

As various meetings sponsored by State Parks and DOBOR, the Kona community has raised concerns about the potential impacts from snorkelers and kayakers stepping on the corals and hauling their kayaks on shore over the corals at Kaʻawaloa. The 1996-1997 study by Tissot and Hallacher for DAR found some decline in the coral cover with a higher incidence of bleached and broken coral in the impact areas but the changes in the coral reef were too small to distinguish from natural changes in the one year period of the study. The 2000 study by Whitcraft and Robichaux for State Parks identified impact areas along the seawall but the lack of coral at the end of the Kaʻawaloa Road probably reflects a long historical practice of use of this area for boat landings.

At Kealakekua Bay, researchers have found that spinner dolphins are now residing for shorter times per day and about 25% fewer days in the bay than before swimmers and kayakers invaded their daytime rest in the early 1980s (Forest, 2000). There is no direct proof that tourism is responsible for these changes, but it appears to be a factor. Members of the Hawaiian community, including Wayne Leslie and James Medieros, have expressed their concern that swimming with the *naiʻa* (dolphins) is not a traditional Hawaiian practice and they believe that the *naiʻa* are seen less frequently in the bay today because of these activities.

Cultural Resources of Kaʻawaloa

Most of the recent impacts to the cultural resources of Kaʻawaloa Flat have been a result of shoreline camping, illegal squatting, and uncontrolled landings along the coastline. These activities have generated trash and the use of archaeological sites as “toilets”. It has been documented that illegal squatters have damaged archaeological sites and disturbed archaeological deposits and burials within cave sites along Pali Kapu O Keōua that are accessible from Kaʻawaloa Flat. Other site disturbance is occurring as visitors wander through the area and there is a high potential for surface artifacts associated with the archaeological sites to be taken. It was observed by the State Parks archaeologists in 1995 that a stacked rock wall was modified by users of the area to

allow for easier access to the Cook Monument area by 4WD vehicles. During the October 13, 2001 survey, it was noted that the two 4WD vehicles parked within the archaeological site adjacent to the monument.

Ka'awaloa Road is also subject to impact from frequent and regular use by the horse tours, and to a lesser degree by hikers (Photo X). The surface of Ka'awaloa Road consists of dirt and loose rock that is being eroded and hikers complain about the horse waste left on the trail. In the past, the horses were tied up in the archaeological site adjacent to the Cook Monument. More recently, the horses have been moved back to an area along the lower portion of Ka'awaloa Road which reduces the impacts of the horses on the archaeological sites and lessens the waste in the shoreline area that can effect other park users.

Because the Ka'awaloa and Pali Kapu O Keōua sections have not been transferred to State Parks, these areas remain uncumbered State land under the jurisdiction of Land Division. Land Division recently installed "No Camping" and "Government Property" signs at Ka'awaloa to assist enforcement by DOCARE. However, the limited DLNR presence at Ka'awaloa Flat or in Ka'awaloa Cove makes it difficult to manage and protect the resources and regulate the use and visitation of the area.

The community often raises concerns about the plastic on the *pahoehoe* along the Ka'awaloa shoreline which is scraped off the kayaks being hauled on shore and the plastic shavings that float out into the bay. The plastic appeared to be minimal during the 2001 surveys, but the long-term impact of this plastic is unclear.

Scenic Resources and Preservation of the Cultural Landscape

Kealakekua Bay is considered to be one of the most important historic places in Hawai'i. The concept of a historical park at Kealakekua Bay was developed in the 1960s in recognition of this cultural and historical significance. However, to be able to interpret the history and cultural traditions of Kealakekua, it is important to protect the open space and view corridors that comprise the cultural landscape and natural setting.

When State Parks initially began to plan for this park, the main objective was acquisition of the land area that encompassed the significant historical, archaeological, and cultural sites. The planning did not adequately address the need for land buffers that would protect this significant place from the impacts of modern development. The lack of a sufficient land buffer along Pali Kapu O Keōua was noted when the adjacent landowners proposed to develop a golf course on the *pali* and *mauka* of the park in 1991. Another proposal in 2000 to develop Keōpuka, the *ahupua'a* adjacent to Ka'awaloa, highlighted the potential impacts of development on the Ka'awaloa section of the historical park (Photo XI). The ongoing construction of single family residences around the Nāpo'opo'o section of the park is visible from the bay and the Ka'awaloa section.

Another potential impact to the park from such developments would be new infrastructure, such as roads, that would offer alternative routes for visitation. Without adequate controls, this visitation may pose additional threats to the sensitive archaeological and marine resources of Ka'awaloa.



PHOTO X (left):
Hiker on the section of
Ka'awaloa Road below Puhina O
Lono Heiau with view towards
the *makai* portion of the Keōpuka
ahupua'a (Keawekaheka Point).

PHOTO XI (below)
View of Ka'awaloa Flat and
adjacent *ahupua'a* of Keōpuka
from the Ka'awaloa Road by
Puhina O Lono Heiau. The
proposal in 2000 called for the
construction of a golf course at
Keawekaheka Point.



RECOMMENDATIONS AND MANAGEMENT STRATEGIES

An inventory of the resources and an assessment of the potential impacts from existing recreational uses of Kealakekua Bay and the surrounding lands at Ka'awaloa and Nāpo'opo'o form the basis for developing management strategies to protect the resources. Much of the management involves better oversight and control of the recreational activities in the bay. Such management will involve coordination between the multiple divisions within DLNR that have jurisdiction over the various resources and areas of Kealakekua. In 2000, an intradepartmental working group was created by Richard Nelson, the Governor's Liaison in Kona, to address the issues of Kealakekua Bay. This group, consisting of staff in Kona from DOBOR, DAR, and DOCARE, met on several occasions to develop management recommendations and proposed rules. The discussions also addressed the implementation and enforcement issues associated with these recommendations. Many of these recommendations are addressed in DOBOR's current draft of their Hawai'i Administrative Rules regarding the recreational use of Kealakekua Bay.

Marine Resources

Nai'a (Spinner Dolphins)

The protection of the spinner dolphins in Kealakekua Bay is under the jurisdiction of the Federal government through the National Oceanic and Atmospheric Administration (NOAA) and the National Marine Fisheries Service (NMFS). These agencies have been working with DLNR to identify the current situation in Kealakekua and discussing means of managing human traffic and use of the bay as it relates to the dolphins. As a Federal responsibility, NOAA and NMFS have developed several informational and regulatory signs to promote protection of the spinner dolphins which have been posted at the Nāpo'opo'o wharf and the end of Nāpo'opo'o Beach Road. Additional steps being discussed by NOAA and DLNR include:

- Establish a sanctuary where the dolphins rest. No vessels or human swimmers would be allowed in this area. While NOAA could establish such a sanctuary, much of the enforcement would lie with DOCARE who has been deputized to enforce the Federal laws in Hawai'i pertaining to the dolphins as a protected marine mammal.
- Encourage tour operators to avoid the bay during the several hours when the dolphins are known to be resting in the bay, generally 11:00am to 2:30pm. At present, most of the recreational and commercial boating in Kealakekua Bay is occurring between 9:00am and 12:00pm.
- Provide a viewing scope to observe dolphins from the shoreline. State Parks has been working with NOAA and the University of Hawai'i, Sea Grant Extension Service on the design of a lookout with a viewing scope at the end of Nāpo'opo'o Beach Road.
- Educate park visitors and users about the bay through interpretive signs and the

promotion of guided tours. Development of a series of interpretive signs about the marine resources of Kealakekua Bay has been initiated by State Parks with technical assistance from DAR and the Sea Grant Extension Service and funding assistance from NOAA. Copies of the signs will be installed around the bay, including the Nāpo'opo'o wharf, at the end of Nāpo'opo'o Beach Road, and at the end of Ka'awaloa Road. These signs will promote visitor awareness and proper behavior around the dolphins that frequent Kealakekua Bay.

Reef of Ka'awaloa Cove

DAR has entered into the first phase of a project with the University of Hawai'i, Hawai'i Institute of Marine Biology. Observations will be made between August, 2001 and August, 2002 to document existing use of the bay and analyze the annual visitation pattern. A second phase (August, 2002 to August, 2003) will address the impacts of this visitation on the marine resources of Kealakekua Bay. This two year study will provide DLNR with the baseline data to make more informed management decisions.

While DLNR does not currently require visitor education about the bay through any existing permits, the tour operators and kayak rental companies appear to be providing some of this information. During the surveys on July 26, and October 13, 2001, it was observed that the permittees give a safety briefing and tell visitors not to step on the corals or go ashore. Talking with some of the kayakers, it was apparent that kayak rental companies vary in the information they provide to visitors before they arrive at Kealakekua Bay. DOBOR has addressed this need for visitor education through a proposed amendment to their Administrative Rules.

Education about the fragile nature of the coral reef is of special concern. Additional recommendations for protecting the reef of Ka'awaloa Cove emphasize education and regular monitoring to evaluate the effectiveness of these educational measures:

- Prepare an educational packet for distribution to recreational users, kayak rental companies, and commercial boat operations. DAR has already printed several brochures that share general guidelines for protecting corals.
- Review and comment on visitor education programs developed by recreational and commercial boaters in compliance with the proposed amendment to DOBOR's Administrative Rules.
- Complete and install the interpretive signs being developed by State Parks and the Sea Grant Extension Service for Kealakekua which discuss the resources of the bay and what visitors need to do to help protect these resources.

Recreational Use of the Bay

Controlling and regulating the recreational use of the bay is key to maintaining an acceptable level of use in the bay. Determining an acceptable level of use should be based on 1) avoiding adverse impacts to the resources, 2) maintaining the historical setting for the historical park, and 3) providing a satisfactory visitor experience. Much

of the responsibility for maintaining an acceptable level of use lies with DOBOR.

DOBOR Rules and Regulations

The staff of DOBOR held numerous meetings with the community and the commercial boating and kayak rental operators in Kona during 1999 and 2000 to develop draft amendments to Chapter 13-256, Hawaii Administrative Rules regarding boating and ocean recreation activities in Kealahou Bay. The major amendments include:

- Establishment of a no vessel zone (Zone C) along the base of Pali Kapu O Keolu. Scuba, snorkeling, and swimming are allowed in this zone.
- Establishment of a Zone D within the bay that controls the number of commercial recreational vessels through permitting. A maximum number of permits is established and these permits outline a maximum capacity for each vessel. These permits also require the commercial and rental vessels to have a guide. These permits address both manually propelled vessels and kayaks.
- Requiring a permit from DLNR to land at Ka'awaloa from the ocean waters of Kealahou Bay.
- Requiring that commercial permittees establish an education program that addresses the cultural and natural resources of Kealahou, the rules pertaining to the protection of these resources, and the ecological significance of the area.

Further action on DOBOR's draft amendments to their Administrative Rules is awaiting the findings from the study being conducted on the Nāpo'opo'o wharf as it will affect the proposed rules on kayaking.

Nāpo'opo'o Wharf

Around 1994, Land Division posted "No Commercial Activities" signs at the Nāpo'opo'o wharf in an effort to control the commercial kayak activities occurring from the wharf and the Nāpo'opo'o side of the bay. DOBOR took over jurisdiction of the wharf in 1997 and is currently addressing a similar situation in 2001 involving kayak rentals from the wharf.

DOBOR is also conducting a study on the structural condition and safety of the Nāpo'opo'o wharf which is expected to be completed by the end of 2001. If the wharf is found to be unsafe, it will be closed until the safety concerns are addressed. This will affect the recreational use of the bay by kayakers and other boaters departing from Nāpo'opo'o. Alternative kayak launching sites at Nāpo'opo'o are limited due to the nature of the boulder beach at Nāpo'opo'o and community objections to commercial activities at Manini Beach.

Ka'awaloa Moorings

In an effort to control the kayak landings at Ka'awaloa, DOBOR has recommended an

amendment to their Administrative Rules that would make it illegal to land at Kaʻawaloa from the ocean without a permit from DLNR. This would avoid the impacts of kayaks being pulled over the *pahoehoe* and reduce the concern about plastic shavings in the bay that result from this activity. Recognizing that many of the kayakers wish to snorkel in Kaʻawaloa Cove, DAR and others have recommended the placement of one or two day moorings for kayaks to tie up to (Clark, 1997: E-10; Clark and Gulko, 1999: 36). However, DOBOR recognizes that such mooring could cause a visual impact to the bay and may cause damage to the corals by the people standing to get in and out of their kayaks. There are also safety concerns for inexperienced kayakers trying to exit and enter their kayak from the water. DLNR is continuing to look at day moorings for kayaks as one option while exploring other possibilities for kayakers wishing to snorkel at Kaʻawaloa Cove.

Commercial Ramp Use Permits

The issuance of commercial ramp use permits by DOBOR provides the best means of controlling visitation and the boat traffic in the bay. While a ceiling for these permits was established in 1999, there has been no evaluation of this ceiling relative to an acceptable level of use in Kealakekua Bay. To make this evaluation, the following actions by DOBOR are recommended:

- Require monthly and annual passenger counts from the permittees to assess the actual visitation counts for Kealakekua Bay.
- Work with the permittees to stagger their visitation at Kaʻawaloa Cove to minimize “overcrowding” in the morning hours. Determining an appropriate level of visitation should also address visitor safety when both snorkelers and motorized vessels are in the cove.
- Monitor the visitation pattern at Kaʻawaloa Cove, especially during the summer months when visitation is highest. At present, such monitoring occurs from the Nāpoʻopoʻo wharf because DOBOR lacks a vessel capable of making the trip from Honokōhau Harbor to Kealakekua Bay.
- Reconvene the intradepartmental working group once a year to determine if the number of permits or the vessel capacity need to be adjusted based on the level and quality of visitation, the status of the resources, and the enforcement/management concerns.

Cultural Resources of Kaʻawaloa Flat

It has been stated at several community meetings that the State needs to provide facilities at Kaʻawaloa if they are going to continue to allow public use of the area. These users include those accessing the area by land routes (hikers, horses, and 4WD vehicles), as well as those accessing the area by ocean routes (kayakers, private boaters, and swimmers). The interim facilities most commonly mentioned are restrooms and trash receptacles. At meetings between the boating community and DOBOR, an offer was made by the boaters to assist with the payment for these facilities but regular

maintenance and placement within the cultural complex are unresolved issues. The other recommendation from the boating community was to have a “presence” at Ka’awaloa. Again, the boating community was willing to explore funding support for this person who could be a State employee. A similar approach was effective in establishing an “ambassador” (Park Technician) position at Nā Pali Coast State Park on Kaua’i in 1995.

One of the major unresolved issues for addressing the cultural resources at Ka’awaloa is the delay in transferring jurisdiction of the lands for Kealahou Bay SHP to State Parks for interim management and maintenance. Once jurisdiction is given to State Parks, there would be an opportunity to request additional personnel and broaden the scope of responsibilities for staff to manage and maintain the land area from Nāpo’opo’o to Ka’awaloa. The delay is hampered by recent community objections to the planning process that resulted in a lawsuit filed against State Parks in 2000 by the organization named Mālama Pono Kealahou. Funding will be requested in a future biennium budget to reassess the 1997 Conceptual Plan and prepare an EIS for the entire park area.

In the Conceptual Plan for Kealahou Bay SHP, there is a proposed interpretive facility at Ka’awaloa that would also house a self-composting toilet. As a reconstruction of one of the historic buildings at Ka’awaloa, this facility would complement the historical setting and interpretation of Ka’awaloa. A staff person would be assigned to the Ka’awaloa section of the park to oversee the interpretive program, resource management, and maintenance. However, these are long-term plans that are dependent on the completion of the park plans and regulatory documents, as well as the availability of funds.

Some recommendations for the interim management of the cultural resources are:

- Recruit and fill the State Parks Interpretive Park Technician. This special funded position was recently redescribed to emphasize marine education programs in the shoreline parks of Kona, including Kealahou Bay SHP. This position could provide a part-time presence at Ka’awaloa to assist in visitor education and resource monitoring.
- Explore the possibilities of expanding the scope of responsibilities for the park caretaker assigned to Kealahou Bay SHP to include a weekly trip to Ka’awaloa to conduct basic maintenance.
- Continue discussions with the boating community for their funding support with interim facilities and staffing at Ka’awaloa.
- Coordinate efforts with DOBOR and DOCARE to control or eliminate boat landings at Ka’awaloa Flat until facilities and management are in place.
- Retain the vegetation cover along the shoreline between the Cook Monument and the end of Ka’awaloa Road to minimize sites for kayak landings until the DOBOR amendments are adopted. Hopefully, this will keep most of the landings at the end

of the Ka'awaloa Road where there is minimal impact to the corals.

- Place signs to encourage kayakers and hikers to enter the water from the end of the Ka'awaloa Road, rather than from the wharf at the Cook Monument.
- Do not promote the Ka'awaloa Road as a trail to Ka'awaloa Flat until management strategies are in place to protect the cultural resources of Ka'awaloa Flat.
- Regulate the commercial horse tours to Ka'awaloa. While the Ka'awaloa Road was used by horses in the past, the lack of maintenance has made the road susceptible to erosion that may be aggravated by the frequent use by horses today. There are precedents for permitting these horse tours on trails under the jurisdiction of the Nā Ala Hele Program.
- Install vehicle barriers at the State property boundary on Ka'awaloa Road and the coastal Cart Road to control vehicular access to Ka'awaloa Flat.
- Install interpretive signs at Nāpo'opo'o and Ka'awaloa that point out the cultural and historical significance of Kealakekua and promote the protection of the archaeological sites.

Preserving the Cultural Landscape

Until recent years, the natural and cultural landscape of Kealakekua has been preserved by the low level of development around the bay. However, since the 1980s, many new residences have been built on the slopes behind Nāpo'opo'o that are visible from both the bay and Ka'awaloa. Since 1990, proposals to develop the lands atop the *pali* and adjacent to the park have heightened awareness about the lack of adequate land buffers to protect the open space and view corridors at Kealakekua Bay. Recommendations for protecting the view corridors and open space include the following:

- Identify adequate land buffers adjacent to the existing park boundaries to maintain the natural and cultural landscape of Kealakekua Bay.
- Explore the range of options for the preservation of open space around the park, including land acquisition, land exchange, moving the conservation district boundary further *mauka*, zoning changes, and alternative acquisition by organizations such as the Trust for Public Lands.

Enforcement

Some in the community have gone as far as to recommend a moratorium on visitation to Ka'awaloa until the State is able to adequately protect all the resources of Ka'awaloa Cove and Ka'awaloa Flat. The various divisions of DLNR have recommended management actions, many of which are based on permitting to control the level of visitation. It is also proposed that these permits contain conditions for visitor education. However, enforcement remains a major concern for insuring the success of these

management recommendations and rules. With only six DOCARE officers and one supervisor assigned to West Hawai'i, adequate staffing is a major concern. The other issue has been problems with prosecuting cases and getting stronger penalties for those violating laws, administrative rules, and permit conditions. Recommendations relative to enforcement include:

- Seek funding assistance from NMFS to increase DOCARE staffing and promote protection of the marine mammals in Kealakekua Bay.
- Explore ways that DOCARE can have a greater presence at Ka'awaloa Flat and Ka'awaloa Cove where much of the visitation is occurring. This may include working with the boating community on the reporting and documenting of violations.
- Obtain a vessel for the DOBOR Harbor Agents that is adequate for ocean travel from Honokōhau Harbor to Kealakeua. This would establish a DOBOR presence in the bay to monitor boating activities and document violations relative to their permit conditions.

Summary

There appears to be a general consensus by the DLNR staff that the current level of visitation to Ka'awaloa should be capped and not allowed to increase until the current studies are completed and more analysis of the data is conducted. Increased visitation without adequate management and enforcement will result in adverse impacts to the cultural resources of Ka'awaloa Flat and the marine resources of Ka'awaloa Cove.

While the aquatic biologists do not see major impacts to the coral and fish of Ka'awaloa, they have raised major concerns about the *nai'a* in Kealakekua Bay and the difficulties in enforcing human activity with these dolphins. Staff has not observed adverse impacts to the marine resources being caused by the current level of visitation, but believes that there is a need for visitation to be monitored more systematically, regulated through rules and permits, and enforced. DOBOR is attempting to regulate the number of vessel and passengers at Ka'awaloa Cove through the draft amendments to their Administrative Rules. But probably most importantly, DOBOR is attempting to regulate kayak launchings and landings which have a potential to cause the greatest impacts to the resources of both Ka'awaloa Flat and Ka'awaloa Cove. However, DOCARE's ability to enforce these rules will be dependent on adequate staffing, vehicles, and equipment to conduct their patrols on both land and water. At present, land access to Ka'awaloa Flat is hampered by dirt roads in generally bad condition.

The impacts on the archaeological and cultural resources of Ka'awaloa are more subtle. At present, the greatest impact is from the frequent commercial horse tours and the occasional 4WD vehicle. It is possible to regulate these current users through permits. State Parks has raised concerns about the potential for uncontrolled visitation by land if development occurs along the park boundaries. It is likely that most of these visitors will be traversing Ka'awaloa Flat to go snorkeling at Ka'awaloa Cove which may result in impacts to both the cultural and marine resources.

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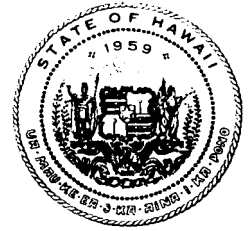
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APPENDIX A:
Senate Concurrent Resolution No. 139, Senate Draft 1

ROBERT BUNDA
PRESIDENT
COLLEEN HANABUSA
VICE PRESIDENT
JONATHAN CHUN
CAL KAWAMOTO
MAJORITY LEADERS
J. KALANI ENGLISH
MAJORITY FLOOR LEADER
SAM SLOM
MINORITY LEADER
FRED HEMMINGS
MINORITY FLOOR LEADER
BOB HOGUE
MINORITY POLICY LEADER

The Senate
The Twenty-First Legislature
of the
State of Hawaii

STATE CAPITOL
HONOLULU, HAWAII 96813
May 9, 2001



FIRST DISTRICT
LORRAINE R. INOUE
SECOND DISTRICT
DAVID M. MATSUURA
THIRD DISTRICT
RUSSELL S. KOKUBUN
FOURTH DISTRICT
JAN YAGI BUEN
FIFTH DISTRICT
J. KALANI ENGLISH
SIXTH DISTRICT
AVERY B. CHUMBLEY
SEVENTH DISTRICT
JONATHAN CHUN
EIGHTH DISTRICT
SAM SLOM
NINTH DISTRICT
MATT MATSUNAGA
TENTH DISTRICT
LES IHARA, JR.
ELEVENTH DISTRICT
BRIAN T. TANIGUCHI
TWELFTH DISTRICT
CAROL FUKUNAGA
THIRTEENTH DISTRICT
ROD TAM
FOURTEENTH DISTRICT
SUZANNE CHUN OAKLAND
FIFTEENTH DISTRICT
DONNA MERCADO KIM
SIXTEENTH DISTRICT
NORMAN SAKAMOTO
SEVENTEENTH DISTRICT
DAVID IGE
EIGHTEENTH DISTRICT
RON MENOR
NINETEENTH DISTRICT
CAL KAWAMOTO
TWENTIETH DISTRICT
BRIAN KANNO
TWENTY-FIRST DISTRICT
COLLEEN HANABUSA
TWENTY-SECOND DISTRICT
ROBERT BUNDA
TWENTY-THIRD DISTRICT
BOB NAKATA
TWENTY-FOURTH DISTRICT
BOB HOGUE
TWENTY-FIFTH DISTRICT
FRED HEMMINGS
CHIEF CLERK
PAUL T. KAWAGUCHI

Honorable Gilbert S. Coloma-Agaran
Chair
Board of Land and Natural Resources
Kalanimoku Building
1151 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Coloma-Agaran :

I have the honor to transmit herewith Senate Resolution No. 99,
S.D. 1, which was adopted by the Senate of the Twenty-first Legislature
of the State of Hawaii, Regular Session of 2001, and Senate Concurrent
Resolution No. 139, S.D. 1, which was adopted by the Twenty-first
Legislature of the State of Hawaii, Regular Session of 2001.

Sincerely yours,

PAUL T. KAWAGUCHI
Clerk of the Senate

Enclosure

SENATE RESOLUTION

REQUESTING AN INVESTIGATION OF THE IMPACTS OF INCREASED PUBLIC
ACCESS ON KA`AWALOA AND KEALAKEKUA BAY, ISLAND OF HAWAII.

1 WHEREAS, Kealakekua Bay is one of the most significant
2 historic and cultural places in Hawaii, and the Kealakekua Bay
3 Historic District was listed on the National Register in 1973 in
4 recognition of this historical significance; and
5

6 WHEREAS, Kealakekua was selected by the ali`i as one of the
7 seven royal centers of Kona because of its marine resources in
8 the bay and its agricultural resources in the Kona field system;
9 and
10

11 WHEREAS, the royal center at Kealakekua consisted of the
12 priestly compound at Napo`opo`o - Hikiau Heiau - and the chiefly
13 compound at Ka`awaloa; and
14

15 WHEREAS, the archaeological sites from this royal center
16 remain intact and their integrity has been preserved by limited
17 modern development around the bay; and
18

19 WHEREAS, the month-long stay of Captain Cook at Kealakekua
20 in 1779 is the basis for much of the knowledge about Hawaiian
21 culture at the time of European contact, and this knowledge has
22 been preserved in journals, drawings, and maps; and
23

24 WHEREAS, the archaeological sites and historic buildings
25 reflect the long and diverse history of Kealakekua from
26 pre-contact times to the present, including explorers,
27 missionaries, shipping, ranching, farming; and
28

29 WHEREAS, the one hundred acre chiefly compound of Ka`awaloa
30 includes Puhina o Lono Heiau, three unnamed heiaus, wells and
31 springs, and numerous house sites; and
32

33 WHEREAS, many of the walls and house platforms reflect the
34 kuleana, or land claims, during the Great Mahele of 1848-1850;
35 and
36




1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 26

1
2 BE IT FURTHER RESOLVED that the assessment shall include
3 input from individuals who use the area for recreation, who are
4 interested in the management of the resources in question, who
5 own property in the area, and who own businesses that affect the
6 resources in question, and the assessment shall list these
7 individuals' names and comments; and
8

9 BE IT FURTHER RESOLVED that DLNR shall report on its
10 findings and recommendations no later than twenty days prior to
11 the convening of the Regular Session of 2002; and
12

13 BE IT FURTHER RESOLVED that a certified copy of this
14 Resolution be transmitted to the Chairperson of the Board of
15 Land and Natural Resources.

I hereby certify that the foregoing is a true
and correct copy of Senate Resolution No. 99 SD1
which was duly adopted by the Senate of the State
of Hawaii on APR 12 2001
Dated: APR 12 2001

Assistant Clerk of the Senate



APPENDIX B:
User Surveys and Visitation Counts

This appendix is a compilation of visitor surveys and visitation counts from several different sources. This information was gathered to develop a foundation for assessing the impacts of visitation at Kealakekua. The first step in the assessment has been to establish a baseline based on the current level of visitation.

Commercial Passenger Counts

Fairwind, Inc. provided monthly and annual passenger counts for their vessel, the Fairwind II, that is permitted 2 trips a day to Ka'awaloa Cove:

FAIRWIND PASSENGER COUNTS FOR KEALAKEKUA BAY

	1995	1996	1997	1998	1999	2000	2001
January	2,771	3,186	3,470	3,656	3,869	3,162	3,917
February	3,001	3,679	3,055	3,914	3,410	4,533	4,202
March	3,661	3,876	3,992	4,577	4,231	4,965	4,752
April	3,490	3,384	4,046	4,600	4,749	5,034	4,899
May	3,033	2,373	3,458	3,753	3,083	3,520	3,827
June	3,554	4,373	3,541	4,855	4,304	5,287	5,136
July	4,427	5,022	4,670	5,830	5,568	6,188	6,150
August	4,835	4,957	5,254	5,637	5,706	5,858	6,139
Sept	2,615	3,125	2,821	2,105	3,113	2,560	2,829
October	3,232	3,042	3,035	3,230	3,506	3,269	
Nov	2,476	2,651	2,981	3,346	3,071	3,632	
Dec	2,540	2,755	3,533	3,539	2,851	3,888	
TOTAL	39,635	42,423	43,856	49,042	47,461	51,896	

Provided by Mendy Dant, Fairwind Inc.

Visitation counts for 2000 were also provided by Randie Farish, owner of Sea Quest Rafting. With permits for five zodiacs, his company brought a total of 11,264 passengers to Kealakekua from January through December of 2000. Four of these zodiacs with a capacity of six passengers depart from Keauhou Bay Pier and the fifth with a capacity of 14 passengers departs from Honokōhau Harbor.

DLNR Visitor Surveys

State Parks conducted two surveys from Ka'awaloa on July 26, 2001 and October 13, 2001. The findings and observations from these surveys are provided on the following pages.

VISITOR SURVEY - OBSERVATION LOG
KA'AWALOA SECTION, KEALAKEKUA BAY SHP
Thursday, July 26, 2001

- 8:30am - Pod (~12) of dolphins in the bay (off Ka'awaloa Cove)
 - 2-person kayaks in water at Nāpo'opo'o (leave ~9:45am - 1.25 hr. stay)
- 8:45am - Sea Quest #1 zodiac arrives (pilot + 6 passengers)
 - Sea Quest #2 zodiac arrives (pilot + 6 passengers)
 * *Sea Quest boats take ~10 minute tour of Ka'awaloa side of the bay (stops in front of the monument, don't get out of the boat, don't snorkel - they come from Keauhou and go to Hōnaunau)*
 - 2 kayaks with 4 people (Kona Boys rentals)
- 9:00am - Sea Quest #3 zodiac arrives (pilot + 6 passengers)
 - Sea Quest #4 zodiac arrives (pilot + 6 passengers)
 - 3 kayaks from Nāpo'opo'o
- 9:15am - Capt. Zodiac #1 arrives (pilot + 16 passengers)
 - Capt. Zodiac #2 arrives (pilot + 16 passengers)
 * *Capt. Zodiac boats take ~1.5 hour visit at Ka'awaloa Cove (stops in front of monument and give passengers a snorkeling safety talk - zodiacs float in the cove to the east of the monument while people snorkel - come from Keauhou)*
- 9:30am - Large number of kayaks leaving Nāpo'opo'o and travelling along inside of bay along cliff - travel across the bay takes ~15 minutes.
 - Dolphin Discovery zodiac (2 pilots + 7 passengers) - enter bay from Keauhou, stop at monument, and go back west to end of road to let people snorkel - stay about 1 hour.
- 9:45am - 17 kayaks arrive in cove area from Nāpo'opo'o, paddled along shoreline of Ka'awaloa, and pulled up kayaks at the end of the road. Visited the monument and went snorkeling - guided tour by Mike Jossy of Kona Boys.
- 9:55am - Fairwind arrives and ties up to the mooring. Carries about 70 passengers who snorkel but do not go on land. Stay ~ 2.5 hours.
- 10:20am - Orca (yellow zodiac) arrives with pilot + 14 passengers. Stay about 1 hour with snorkeling.
 - Horse tour arrives with 2 guides, 7 visitors (family of 5), 9 horses, and 2 dogs. Visit monument, go snorkeling, and have lunch by the monument. Left horses along Ka'awaloa Road. Stay ~ 2 hours.

- 10:30am - "Independent" kayakers who have rented kayaks arrive from Nāpo'opo'o and pull-up near the monument. Said the rental people told them not to kayak into the cove area and to pull-up at the end of the road but all the space was taken.
- 10:40am - Sea Quest #1 zodiac returns to Ka'awaloa from Hōnaunau (first arrival in Ka'awaloa at 8:30am). Let people off at end of the road to snorkel and boat floated toward the cove to pick-up people. Stay ~30-45 minutes).
- 10:45am - Whaler (fixed hull) arrived from Hōnaunau - going along base of *pali* and stopped in cove to snorkel. Pilot + family of 4. Stay ~25 minutes.
- 11:00am - Sea Quest #2, #3, and #4 - same pattern as above.
- 11:30am - Bay started to empty out of vessels - Fairwind left at 12:30pm. Kayaks on shoreline but not in the bay.
- 1:40pm - Dorado II (fishing boat, fixed hull) arrived with 6 people - 4 went scuba diving.
- 2:00pm - Orca arrived with pilot and second group of 7 passengers. Snorkeling - stay ~ 1 hour.
- 2:15pm - Capt. Zodiac #1 returned with 2 pilots + 11 new passengers.
- Capt. Zodiac #2 with pilot + 5 passengers. Stay ~1.5 to 1.75 hour.
- 2:30pm - Dojo (fishing boat) arrives. Stayed ~20 minutes.
- A private, small fixed hull boat crosses the bay from Nāpo'opo'o with a "local" family of 5 - didn't get out of the boat - stayed only ~5 minutes. Makes 3 additional trips (2:45, 3:10, and 3:40) with same pilot but different passengers. Some passengers jump into the water at the cove. Average stay only 10-15 minutes. May be the Leslie family.
- 2:45pm - Fairwind returns with another group of ~70 passengers.

Recorded by:
Martha Yent
Division of State Parks
October 13, 2001

VISITOR SURVEY - GENERAL OBSERVATIONS
KA'AWALOA SECTION, KEALAKEKUA BAY SHP
Thursday, July 26, 2001

Kayaks

- All kayaks come from Nāpo'opo'o wharf.
- Most are 2-person kayaks.
- Most, if not all, appear to be rentals.
- Takes about 1/2 hour to kayak across the bay.
- Most go to the end of the road, pull up their kayak on the shoreline, and snorkel.
- Average stay is 1 to 2 hours.
- Kona Boys leads guided kayak tours - land at end of road, visit monument, and snorkel.
- Most "independent" kayakers land at the end of the road, pull-up kayaks on sandy shoreline, walk to monument, go back to road, and snorkel from road to cove and back.
- Kayaks from several rental companies: Kona Boys, Aloha Kayak, Ocean Safari's Kayak Tours and Rentals, Kealakekua Kayak and Snorkel, and Kahalu'u Bay Rentals.

Zodiacs

- Sea Quest has 4 boats (pilot + 6 passengers each). Leave Keauhou, stop at Ka'awaloa to view monument (8:30am), travel to Hōnaunau, return to Ka'awaloa about 2 hours later to snorkel. Average stay of ~10 minute for 1st visit and 30-45 minutes for 2nd visit.
- Capt. Zodiac has 2 boats that each do a morning tour (9:15am) and an afternoon tour (~2:00pm) - 1.5 hour stays.
- Orca has 1 zodiac that does a morning (10:20am) and afternoon (2:00pm) tour.

Other Observations

- Fallen tree at end of the road has blocked the shoreline trail to the monument.
- Not much litter or toilet paper noted.
- Some people walk up Ka'awaloa Road a short distance.

OCEAN RECREATION - TRAFFIC COUNTS (Arrival in the Cove)
KA'AWALOA SECTION, KEALAKEKUA BAY STATE HISTORICAL PARK
Thursday, July 26, 2001

TIME OF ARRIVAL IN COVE	Rental and Tour Boats / Vessels				Private Boats / Vessels				TOTAL VESSELS	Swimmer
	Kayak	Zodiac	Fixed Hull	Large Boat	Kayak	Zodiac	Fixed Hull	Large Boat		
8:00-8:30am										
8:30-9:00am	5	2							7	
9:00-9:30am		4							4	1
9:30-10:00am	18	1		1					20	
10:00-10:30am	6	1							7	
10:30-11:00am	10	1							11	
11:00-11:30am	2	4	1						7	
11:30-12:00pm	5								5	
<i>Morning Total</i>	46	13	1	1					61 (75%)	1
12:00-12:30pm	6								6	
12:30-1:00pm									0	
1:00-1:30pm	3								3	1
1:30-2:00pm			1						1	
2:00-2:30pm	1	3					1+		5	
2:30-3:00pm			1				1+		2	
3:00-3:30pm				1			1+		2	
3:30-4:00pm							1+		1	
<i>Afternoon Total</i>	10	3	2	1			4		20 (25%)	1
Day Total	56	16	3	2			4		81	2
% Total Vessels	69%	20%	4%	2%			5%		95% Tour 5% Private	

+ Same private boat running back and forth between Napo'opo'o and Ka'awaloa.

OCEAN RECREATION - VISITOR COUNTS
KA'AWALOA SECTION, KEALAKEKUA BAY STATE HISTORICAL PARK
Thursday, July 26, 2001

TIME OF ARRIVAL IN COVE	KA'AWALOA LANDING					KEALAKEKUA BAY (Don't Land*)							TOTAL #	
	Kayak		Swimmer		Other	Tour Boats				Private				
	Rental	Private	From Land	From Boat		Kayak	Zodiac	Fixed Hull	Large Boat	Kayak	Zodiac	Fixed Hull		
8:00-8:30am														
8:30-9:00am						9	14							23
9:00-9:30am			1				48							49
9:30-10:00am	33						9		~70					112
10:00-10:30am	11						15							26
10:30-11:00am	21						7							28
11:00-11:30am					9 horses 2hikers		21*	6						36
11:30-12:00pm	8													8
Morning Total	73		1		11	9	114	6	70					284
12:00-12:30pm	10				1 hiker									11
12:30-1:00pm														0
1:00-1:30pm	4		1											5
1:30-2:00pm								6						6
2:00-2:30pm	3						27					5		35
2:30-3:00pm								4				6		10
3:00-3:30pm									~70			6		76
3:30-4:00pm														2
Afternoon Total	17		1		1		27	10	70			19		145
DAY TOTAL	90		2		12	9	141	16	140			19		429
% of TOTAL	21%		0.5%		2.5%	2%	33%	3.5%	33%			4.5%		100%

* 76.5 of the visitors to Ka'awaloa Cove do not land onshore.

VISITOR SURVEY - OBSERVATION LOG
KA'AWALOA SECTION, KEALAKEKUA BAY SHP
Saturday, October 13, 2001

- 9:00am - Nai'a Mana zodiac (pilot + 2 passengers) already in the cove (floating and snorkeling). Left at 10:50am (~2 hour stay).
 - 1 kayak with 2 people landed at Monument.
 - 2 kayaks with 4 people from Nāpo'opo'o landing at end of road.
 - 2 kayaks in bay moving toward Ka'awaloa (one couple from CA, one couple from Holland).
 - Private canoe with one person in water by monument - jumped in water and paddled back out of the bay - short 10 minute stay).
- 9:20am - Capt. Zodiac #1 arrives (pilot + 5 passengers). Leaves at 11:15am (2 hour stay). 2 zodiacs in the cove.
- 9:55am - Fairwind II arrives with ~45 passengers. Leaves at 12:30pm - stay of 2.5 hours.
 - Family group in 3 Kona Boy kayaks arrives (Mike Jossy) along with couple from "Kayaking Magazine".
- 10:05am - Orca (yellow zodiac) arrives with 2 pilots + 12 passengers. Left at 11:10am - stay about 1 hour with snorkeling.
- 10:30am - Fixed hull boat "Oceanic" arrives with 1 capt. and 8 passengers. Came into center of bay, turned toward Manini Beach and followed Hōnaunau side of the bay to go out of the bay. Short 15 minute stay in bay.
 - 3 hikers who live in Kona arrive at monument from the Ka'awaloa Road (complained about horses on the trail). Left around 3:00pm - 4.5 hours at bay plus another 2 hours to hike.
 - Horse tour arrives with 2 guides, 4 visitors (family from O'ahu), 6 horses, and 3 dogs. Visit monument, go snorkeling, and have lunch by the monument. Left horses along Ka'awaloa Road. Left at 12:45 - stay ~ 2 hours.
 - Aikane Kai (small fishing boat) arrives with capt. and 2 visitors. Didn't go in the water and left around 11:00am.
 - Early group of kayakers begin heading back to Nāpo'opo'o.
- 10:50am - Boston whaler (Wavewalker) with 5 people floats around Lepeamoa. Snorkel for about an hour - left at 12:00pm.
- 10:45am - Whaler (fixed hull) arrived from Hōnaunau - going along base of *pali* - stopped in cove to snorkel. Capt. and family of 4. Stay ~25 minutes.

- 11:00am - Sea Quest #1 (pilot + 6 passengers). Drop off snorkelers at end of road and floats down toward the monument. Left at 11:35 - stay ~30 minutes.
- 11:40am - Small, private zodiac with 3 local men. Floated in the cove area and threw a throw-net along shoreline just S of the monument. Left at 12:50pm and went toward Manini Beach.
- 12:00pm - Noted helicopters overhead and para-glider off the Nāpo'opo'o end of the *pali*.
- 12:30pm - New group of kayakers arrive (not together).
- 12:50pm - Private fishing boat (Brandi K) with father and son arrive in cove. Left at 1:45pm - stayed about 1 hour.
- 1:35pm - Orca arrived with 2 pilots and second group of 10 passengers. Left around 3:00pm - stay ~ 1.5 hour.
- 1:45pm - Fixed hull boat (Mana Kai) with scuba gear arrived with 1 capt. and 5 passengers. Didn't go in the water and left around 2:00pm.
 - 1 hiker arrived at monument from Ka'awaloa. Jumped in water and left monument at 2:05 (20 minute stay at monument).
- 1:55pm - Sea Quest #2 (1 pilot + 2 passengers) arrives.
- 2:15pm - 1 ATV with young boy (~12 years old) and dog arrives at the monument.
 - 2 4-WD trucks arrive about 10 minutes later with another 9 people (2 men, 2 women, and 5 children). Probably the Leslie *'ohana* - cleaning monument area with weed eaters and chainsaws. Came from the coastal Cart Road.
- 3:00pm - End of survey.

Recorded by:
Martha Yent
Division of State Parks
October 13, 2001

VISITOR SURVEY - GENERAL OBSERVATIONS
KA'AWALOA SECTION, KEALAKEKUA BAY SHP
Saturday, October 13, 2001

General Comments:

- Survey conducted 9:00am til 3:00pm.
- Weather is sunny and hot with little wind.
- September and October are generally slower period for visitation (per Inkster).
- Impact of September 11 attack on tourism reflected in this survey.
- Weekend survey conducted to evaluate use of bay by residents (vs. commercial).

Kayaks

- All kayaks come from Nāpo'opo'o wharf.
- Most are 2-person kayaks with couples.
- Most, if not all, appear to be rentals. The rental companies seen at Ka'awaloa are:
 - Kona Boys (on Māmalahoa Hwy. to the N of Kealahkekua town)
 - K-Bay Kayak
 - Kahalu'u Beach Bay Rentals
 - Aloha Rentals (Honalo)
 - We Cater to the Particular
- Takes about 1/2 hour to kayak across the bay.
- Most go to the end of the road or along the shoreline toward the monument where there are breaks in the *kiaue*, pull up their kayak on the shoreline, and snorkel. Plastic was noted on *pahoehoe* at end of the road.
- Average stay is 1 to 2 hours.
- Most "independent" kayakers land at the end of the road, pull-up kayaks on sandy shoreline, walk to monument, go back to road, and snorkel from road to cove and back.

Zodiacs

- Sea Quest has 4 permitted boats (pilot + 6 passengers each) but only 2 visited Ka'awaloa on 10/13/01, one in morning (11:00am) and one in afternoon (1:30pm).
- Capt. Zodiac has 4 permitted boats but only 1 visit on 10/13/01 at 9:00am.
- Orca has 1 zodiac that does a morning (10:20am) and afternoon (2:00pm) tour.
- Zodiac already in cove at 9:00 - may be Nai'a Mana that has permit.

Other Observations

- Visitation in October is about half of the visitation noted in July, 2001.
- Leslie family arrived around 2:00pm to clean monument area (weed eaters, chainsaws).
- Fishing violations noted in the MLC (throw-net and small scoop net in Subzone A by the monument).
- Zodiacs appear to be in compliance - do not anchor or land.
- Talk with Sally Hodgins Ingster (King's Trail Rides of Kealahou)
 - Leads daily horse tours to Ka'awaloa using the Ka'awaloa Road during the summer (July and August) and holiday periods (late November, December, March-April). September-October tends to be a slower period and tours based on customers.
 - Mostly mainland visitors with some Hawai'i residents.
 - She has moved horses from monument area to along the lower section of Ka'awaloa Road - cleans up after the horses.
 - She and her husband do litter pick-up at Ka'awaloa.
 - Safety concerns - someone needs to work with visitors and tell them where to land.
 - Doesn't like the kayaks lining up along the wharf area - makes it hard for others to enter the water. (Note: did not see this happen the 2 days were surveyed)
- Talk with Mike Jossy of Kona Boys (grew up in Kealahou next to Norman and Jean Greenwell).
 - Tells visitors to land at the end of the road when they rent kayaks from him. Shows them a photo of the bay.
 - Said he does not "lead guided tours" - implies commercial activity.
 - Absence of coral at the end of the road (former ranching wharf) and near the pali (marine railroad).
 - Doesn't like the motorized boats and zodiacs - fumes, oil, and gas.
 - Kayaks are most appropriate - similar to the canoes used by the Hawaiians to cross the bay.

OCEAN RECREATION - TRAFFIC COUNTS (Arrival in the Cove)
KA'AWALOA SECTION, KEALAKEKUA BAY STATE HISTORICAL PARK
Saturday, October 13, 2001

TIME OF ARRIVAL IN COVE	Rental and Tour Boats / Vessels				Private Boats / Vessels				TOTAL VESSELS	FROM LAND
	Kayak	Zodiac	Fixed Hull	Large Boat	Kayak	Zodiac	Fixed Hull	Large Boat		
8:00-8:30am										
8:30-9:00am	1	1							2	
9:00-9:30am	4	1						1 canoe	6	
9:30-10:00am	4			1					5	
10:00-10:30am	9	1	1						11	3 hikers
10:30-11:00am	3		2						5	6 horses 3 dogs
11:00-11:30am	4	1							5	
11:30-12:00pm	2					1			3	
<i>Morning Total</i>	27	4	3	1		1	0	0	37 (80%)	9
12:00-12:30pm	5								5	
12:30-1:00pm							1		1	
1:00-1:30pm									0	
1:30-2:00pm		2	1						3	1 hiker
2:00-2:30pm									0	1 ATV 2 trucks
2:30-3:00pm									0	
3:00-3:30pm									0	
3:30-4:00pm									0	
<i>Afternoon Total</i>	5	2	1	0		0	1	0	9 (20%)	11
Day Total	32	6	4	1		1	1	0	46	20
% Total Vessels	70%	13%	9%	2%		2%	2%		94% Tour 6% Private	

OCEAN RECREATION - VISITOR COUNTS
KA'AWALOA SECTION, KEALAKEKUA BAY STATE HISTORICAL PARK
Saturday, October 13, 2001

TIME OF ARRIVAL IN COVE	KA'AWALOA LANDING					KEALAKEKUA BAY (Don't Land)							TOTAL #	
	Kayak		Swimmer		Other	Tour Boats				Private				
	Rental	Private	From Land	From Boat		Kayak	Zodiac	Fixed Hull	Large Boat	Kayak	Zodiac	Fixed Hull		
8:00-8:30am														
8:30-9:00am	2							4						6
9:00-9:30am	8							6		1 canoe				15
9:30-10:00am	8								~45					53
10:00-10:30am	16				3 hikers			14	9					42
10:30-11:00am	6				6 horses				5					16
11:00-11:30am	5													5
11:30-12:00pm	4										3			4
Morning Total	49	0	0	0	9	0	24	14	45	1	3	0		145
12:00-12:30pm	8													8
12:30-1:00pm												2		2
1:00-1:30pm														0
1:30-2:00pm					1 hiker		15	6						22
2:00-2:30pm					10 (trucks)									10
2:30-3:00pm														
3:00-3:30pm														
3:30-4:00pm														
4:00-4:30pm					1 hiker									
Afternoon Total	8	0	0	0	12	0	15	6	0	0	0	2		42
DAY TOTAL	57	0	0	0	21	0	39	20	45	1	3	2		188
% of TOTAL	31%				10%		21%	11%	24%	0.5%	1.5%	1%		100%

APPENDIX C:
Consultation and Public Meetings on Kealakekua

A number of meetings have been held between the Department of Land and Natural Resources and the Kealahkekua community to discuss a range of issues affecting Kealahkekua Bay State Historical Park and the recreational use of Kealahkekua Bay. Some of these meetings were open to the general public while others were directed toward special groups within the community, such as the tour boat operators. Below is a brief summary of these meetings that illustrates the history of consultation on the issues raised in Senate Concurrent Resolution 139, Senate Draft 1.

Kealahkekua Bay State Historical Park

- Public meetings held in conjunction with development of Conceptual Plan for Kealahkekua Bay State Historical Park:

<u>Date</u>	<u>Location</u>	<u>Topic</u>
August, 1994	Yano Hall Captain Cook	Identification of community issues and concerns for the park planning process.
Nov., 1994	Konawaena High School Kealahkekua	Input on 3 conceptual plans with various levels of development.
March, 1995	Konawaena High School Kealahkekua	Discussion of planning issues and development ideas.
July, 1995	Konawaena High School Kealahkekua	“Public Open House” format with opportunity for community to talk with planners on various topics.

- Public meetings held in conjunction with preparation of Draft Development Plan and Environmental Assessment for Kealahkekua Bay State Historical Park:

<u>Date</u>	<u>Location</u>	<u>Topic</u>
March, 1998	Yano Hall Captain Cook	Nāpo‘opo‘o Development Plan: Alternatives and level of development.
April, 1998	Yano Hall Captain Cook	Recreation, natural resources, and management of Kealahkekua Bay.

- Public meetings held in conjunction with design and location of replacement restroom at Nāpo‘opo‘o Section of Kealahkekua Bay State Historical Park:

<u>Date</u>	<u>Location</u>	<u>Topic</u>
Sept., 1996	Nāpo‘opo‘o Pavilion Nāpo‘opo‘o	Community input on design and location of replacement restroom.
March, 2000	Nāpo‘opo‘o Pavilion	Review of architectural drawings.

- Public meetings held in conjunction with design of interpretive signs for Kealahou:

<u>Date</u>	<u>Location</u>	<u>Topic</u>
April, 1994	Nāpo'opo'o Pavilion	Interpretive themes and location of signs.
May, 1995	Nāpo'opo'o Pavilion	Review of mock-ups
June, 2000	Paleaku Garden Ke'ei	Review of revised signs for Hikiau Heiau and Kealahou Bay.
May, 2001	Konawaena Elementary Kealahou	Review of signs on dolphins and marine resources of Kealahou Bay.

Ocean Recreation of Kealahou Bay

In conjunction with the development of proposed amendments to DOBOR's Administrative Rules, DOBOR held public meetings and met with kayak, zodiac, and boat operators in Kona on several occasions between 1999 and 2000.

In addition, Richard Nelson, the Governor's Liaison in Kona, created an intradepartmental working group of DLNR staff in Kona to address issues affecting Kealahou. The members of the that working group included:

DOBOR	Carol She, Jeff Bearman
DAR	William Walsh
DOCARE	Charles Nahale, Scott Shero-Amba

Consultation with Users of Kealahou Bay

Mendy Dant	Fairwind, Inc.	Owner, commercial boat permittee (October 26, 2001)
Sally Ingster	King's Trail Rides	Owner, horse tours (October 13, 2001)
Mike Jossy	Kona Boys	Owner, kayak rentals (July 26 and October 13, 2001)
Steve Soto-Amundson	Nai'a La'au	Guided Ocean Swims (Dolphins) (March, 1999 and May, 2000)
Randie Farish	Sea Quest Rafting & Snorkeling Adventure	Owner, commercial zodiac permittee (November 26, 2001)

Consultation with DLNR Staff and Agencies

Aquatics	Athline Clark, Planner	DAR - Honolulu
	William Walsh, Aquatic Biologist	DAR - Kona
	Kim Holland, Researcher	UH-Institute for Marine Biology
	Trevor Spradlin, Marine Biologist	NOAA - NMFS
	Raymond Tabata, Extension Agent	Sea Grant Extension - O'ahu
	Sara Peck, Extension Agent	Sea Grant Extension - Kona
Boating	Carol She, Regulatory Officer	DOBOR - Honolulu
	Nancy Murphy, Acting District Manager	DOBOR - Kona
	Darryl Quiocho, Harbor Agent	DOBOR - Kona
Enforcement	Charles Nahale, Field Supervisor	DOCARE - Kona
	Scott Shero-Amba, Officer	DOCARE - Kona
Nā Ala Hele	Curt Cottrell, Program Manager	DOFAW - Honolulu
State Parks	Martha Yent, Interpretive Program	State Parks - Honolulu